DEPARTMENT OF THE INTERIOR

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Dinoflagellate-Cyst Census Data from the Seabed Samples of Wall and Others (1977) and Turon (1984)

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CONTENTS

TABLES

INTRODUCTION

The U.S. Geological Survey Climate Change Program involves research into present and past climatic and oceanographic conditions. One element of this research is to investigate the potential of using quantitative studies of dinoflagellate cysts in this endeavor.

Dinoflagellates are single-celled organisms that can produce organic-walled cysts. The distribution of these cysts in sediments is influenced by both biologic and sedimentologic processes. Nonetheless, the present-day distribution of cysts reflects, to varying extents, the overlying oceanographic conditions. Based on the data presented here, Edwards (1990; in press) related relative abundances of specific taxa and combinations of taxa to specific ranges of winter sea-surface temperatures for both modern and fossil samples.

This paper gives census data for 25 commonly occurring dinoflagellate cyst types in sediment samples from two published sources, Wall and others (1977) and Turon (1984). The sediments are from bottom samples and were collected to represent modern sediments, although reworked and relict sediments cannot be ruled out in every case. Winter and summer sea-surface temperatures from oceanographic atlases have been combined with quantitative data from modern samples as reported in the literature. Raw counts and percentage data are tabulated here to provide basic data for future research.

THE WALL AND OTHERS (1977) DATASET

Wall and others (1977) discussed quantitative treatment of dinocyst assemblages from 168 samples from various regions in the North and South Atlantic Ocean and adjacent seas. Their appendix III presents percentage compositions for the 27 most common taxa in 141 of the samples -- 103 in the North Atlantic Ocean and 38 from the South Atlantic Ocean off Argentina, Angola, and South Africa, the South Pacific Ocean off Peru, and the Mediterranean Sea. In their appendix III, counts were converted to percents and rounded off to integer values, counts for all species other than the 27 most common were omitted, and percentages for the 27 taxa were recalculated to sum to 100 percent. In the present study, we have used the original species counts from these samples, as provided by David Wall, and have calculated percent abundance based on a denominator of all dinocyst forms present. We have added two additional taxa that are discussed in the text but not included in their appendix III and have combined certain rare taxa into a category called "other."

The 103 North Atlantic localities are concentrated along the western margin of the North Atlantic (latitudes range from 1 to 62°N and longitudes range from 86°W to 18°E). Sample depths are reported by Wall and others (1977) and range from 1-3910 m (average 551 m). This dataset includes relatively few open-ocean samples.

The southern localities are concentrated along the coast of South America offshore of Peru and Argentina and South Atlantic coast offshore of South Africa and Angola (latitudes range from 6-39°S and longitudes range from 75°W to 9°E). Reported depths range from 5-5024 m (average 1185 m).

The Mediterranean localities are concentrated along the coastal areas (latitudes range from 32-42°N and longitudes range from 7-34°E). Reported depths range from 183-3955 m (average 2112 m).

For the North Atlantic and Mediterranean localities, both winter and summer sea-surface temperatures were extracted from U.S. Naval Oceanographic Office (1967) charts, interpolated to the nearest degree Fahrenheit from 2°F isotherms and converted to degrees Celsius. Because the isotherms are derived from historic averages dependent on ship coverage, nearshore temperatures may be inaccurate and localized circulation and current patterns may be lost. Following Imbrie and Kipp (1971), winter temperature is the average temperature for the coldest month of the year (February, north of the thermal equator, August south of the thermal equator) and summer temperature is the average temperature for the warmest month of the year (August north of the thermal equator and February south of the thermal equator).

For the North Atlantic samples of Wall and others (1977), winter sea-surface temperatures range from 0-25.6° Celsius and summer temperatures range from 13.3-28.9° Celsius. Most samples show a large difference in summer and winter sea-surface temperature, an average of 10.1°C. There are no samples representing 11-15°C winter temperature.

For the Mediterranean localities, winter sea-surface temperatures range from 12.2-16.7°C and summer temperatures from 22.8-27.8°C. Samples show a large difference in summer and winter sea-surface temperature, an average of 10.6°C. There are no samples with winter sea-surface temperature between 12.2-15°C.

For the South Atlantic and South Pacific Ocean localities of Wall and others (1977), winter (August) and summer (February) sea-surface temperatures were extracted from U.S. Naval Oceanographic Command (1981). Temperatures were interpolated to the nearest degree Celsius (or 0.5°C where contours were very widely spaced) from 2°C isotherms. Winter sea-surface temperatures range from 12-16°C and summer temperatures range from 18-27.8°C. Most samples show a smaller difference in summer and winter sea-surface temperature, an average of 5.7°C. There are no samples with summer sea-surface temperature between 22-27.8°C.

According to Wall and others (1977) sediment samples were prepared using routine palynological methods. These methods included digestion of minerals in hydrochloric and hydrofluoric acids, short sonification, washing through a 20 µm screen, and mounting in glycerine jelly. The total number of dinocysts counted per sample ranges from 72 to 1201 with an average value of 287 and a median value of 213. Five samples had less than 100 specimens counted; 43 had greater than 300.

THE TURON (1984) DATASET

Turon (1984) presented raw counts for 45 coretop samples from the northwestern Atlantic Ocean. Raw counts were converted to percentage values based on the total number of dinocysts present.

The samples in the Turon (1984) dataset are, for the most part, from open ocean sediments, east of the Mid-Atlantic Ridge, from near Norway to the north to just south of the Azores (latitudes range from 34-66°N and longitudes 36°W to 11°E). Reported depths range from 410-4787 m (average 2875 m).

Winter and summer sea-surface temperatures were taken from the February and August isotherms on Turon's (1984) figure 49, interpolated to the nearest 0.5°C. Winter sea surface temperatures range from 3-17°C and summer sea surface temperatures range from 8-24°C. Average winter-summer temperature difference is 5.8°C. Only a few samples have winter sea surface temperatures above 11°C.

According to Turon (1984), his processing steps consisted of: removal of carbonates using cold hydrochloric acid in progressively stronger concentrations (10-25%), removal of silicates using cold hydrofluoric acid (40%) for 24 hours, treatment in cold hydrochloric acid (10%), heavy liquid treatment (cadmium and potassium iodide solution with a specific gravity of 2), filtration, final wash and centrifugation in distilled water. He processed 5-15 g of sediment for each sample. The total number of dinocysts counted per sample ranges from 16 to 848 with an average value of 195 and a median value of 171. Fourteen samples had less than 100 specimens counted; seven had greater than 300.

TAXONOMIC NOTE

Because the relationships between cyst and parent theca are often unknown or uncertain, a dual nomenclature has evolved for dinoflagellates. Both names are given in the key to the data tables. More documentation of the taxonomy can be found in Lentin and Williams (1989).

KEY TO ABBREVIATIONS

Snum	Sample number or code as given by the originial author(s).
Auth	Author(s). Wall=Wall and others (1977); Turon=Turon (1984).
Lat	Latitude, in decimal degrees. North latitude is positive.
Long	Longitude, in decimal degrees. East longitude is positive.
Depth	Water depth (m) at sample location, as given by the original author(s).
Wsst	Winter sea-surface temperature (°C), average monthly temperature for the coldest month of the year, as interpolated from source given in column "tsource."
Ssst	Summer sea-surface temperature (°C), average monthly temperature for the warmest month of the year, as interpolated from source given in column "tsource."
tsource	Reference used to obtain winter and summer sea-surface temperatures. NOO67=U.S. Naval Oceanographic Office (1967), NOC81=U.S. Naval Oceanographic Command (1981), Turon=Turon's (1984) figure 49.
sum	Total number of dinocysts counted.

O.cen **Cyst name: *Operculodinium centrocarpum* (Deflandre & Cookson 1955) Wall 1967** = Thecate name: *Gonyaulax grindleyi* Reinecke 1967 according to Turon (1984); column heading "13 OCEN" in Wall and others (1977).

O.isr **Cyst name: *Operculodinium israelianum* (Rossignol 1962) Wall 1967** = Thecate name: *Gonyaulax* sp. indet? *grindleyi* Reinecke 1967; column heading "14 OISR" in Wall and others (1977).

L.mach **Cyst name: *Lingulodinium machaerophorum* (Deflandre & Cookson 1955) Wall 1967** = Thecate name: *Gonyaulax polyedra* Stein 1883; column heading "16 LING" in Wall and others (1977).

S.bull **Cyst name: *Spiniferites bulloideus* (Deflandre & Cookson 1955) Sarjeant 1970** = Thecate name: *Gonyaulax scrippsae* Kofoid 1911; column heading "1 SBUL" in Wall and others (1977).

S.ram **Cyst name: *Spiniferites ramosus* (Ehrenberg 1838) Loeblich & Loeblich 1966** = Thecate name: *Gonyaulax scrippsae* Kofoid 1911 according to Harland (1977); *Gonyaulax spinifera* group (undif.) according to Wall and Dale (1970); column heading "2 SFUR" in Wall and others (1977). Note: Harland (1977) reported that the cyst of *G. scrippsae* is distinct from *Spiniferites ramosus sensu* Wall (1965). The majority of the data presented here consist of data from the Wall and others (1977) paper, and therefore are presumably *S. ramosus sensu* Wall. The data from Turon (1984) may represent the same or a different taxonomic concept.

A.cho **Cyst name: *Ataxiodinium choanum* Reid 1974** = Thecate name: *Gonyaulax spinifera* group. Data taken from charts provided by David Wall, not included in Appendix III of Wall and others (1977); listed as *Planinosphaeridium membranaceum* in Turon (1984).

B.tep **Cyst name: *Bitectatodinium tepikiense* Wilson 1973** = Thecate name: *Gonyaulax spinifera* group. Data taken from charts provided by David Wall, not included in Appendix III of Wall and others (1977).

N.lab **Cyst name: *Nematosphaeropsis labyrinthus* (Ostenfeld 1903) Reid 1974** = Thecate name: *Gonyaulax spinifera* group; column heading "6 NBAL" in Wall and others (1977). Note: Deflandre and Cookson (1955) created the genus *Nematosphaeropsis* and its type species *N. balcombiana*. Reid (1974) synonymized *N. balcombiana* with *Pterosperma labyrinthus* Ostenfeld. In 1984, Bujak erected *Nematosphaeropsis lemniscata* for forms with ribbon-like trabeculae. Wrenn (1988) did not accept Reid's transfer and synonymy and instead included specimens that had previously been called *N. balcombiana* (but not the holotype) in his concept of *N. lemniscata*. Because more than one morphotype may be involved, and because there appears to be disagreement on what Ostenfeld actually described, we group what Wall and others (1977) called *N. balcombiana* and what Turon (1984) called *N. labyrinthea* under the name *N. labyrinthus*.

S.elon **Cyst name: *Spiniferites elongatus* Reid 1974** = Thecate name: *Gonyaulax spinifera* group; column heading "5 SM49" in Wall and others (1977). Note: Many authors combine *S. elongatus* and *Spiniferites frigidus* Harland & Reid *in* Harland et. al. when tabulating their data. As the data in Wall and others (1977) predate the separation into these two species and Turon (1984) does not mention *S. frigidus* in his description, it is likely that the plots shown here contain representatives of both species.

S.mir **Cyst name: *Spiniferites mirabilis* (Rossignol 1964) Sarjeant 1970** = Thecate name: *Gonyaulax spinifera* (Claparède & Lachmann 1858/59) Diesing 1866; column heading "3 SMIR" in Wall and others (1977).

S.scab **Cyst name: *Spiniferites scabratus* (Wall 1967) Sarjeant 1970** = Thecate name: *Gonyaulax spinifera* group according to Wall and Dale (1968); an unknown *Gonyaulax* sp. according to Harland (1983); column heading "4 SCRA" in Wall and others (1977).

T.pell **Cyst name: *Tectatodinium pellitum* Wall 1967** = Thecate name: *Gonyaulax spinifera* according to Wall and Dale (1968); cyst of an unidentified *Gonyaulax* species according to Harland (1983); column heading "12 TPEL" in Wall and others (1977).

I.acul **Cyst name: *Impagidinium aculeatum* (Wall 1967) Lentin & Williams 1981** = Thecate name: *Gonyaulax* sp. indet.; column heading "7 LACU" in Wall and others (1977).

I.para **Cyst name: *Impagidinium paradoxum* (Wall 1967) Stover & Evitt 1978** = Thecate name: *Gonyaulax* sp. indet.; column heading "8 LPAR" in Wall and others (1977).

I.pat **Cyst name: *Impagidinium patulum* (Wall 1967) Stover & Evitt 1978** = Thecate name: *Gonyaulax* sp. indet.; column heading "10 LPAT" in Wall and others (1977).

I.sph **Cyst name: *Impagidinium sphaericum* (Wall 1967) Lentin and Williams 1981** = Thecate name: *Gonyaulax* sp. indet.; column heading "9 LSPH" in Wall and others (1977).

I.str **Cyst name: *Impagidinium strialatum* (Wall 1967) Stover & Evitt 1978** = Thecate name: *Gonyaulax* sp. indet.; column heading "11 LSTR" in Wall and others (1977).

P.zoh **Cyst name: *Polysphaeridium zoharyi* (Rossignol 1962) Lentin & Williams 1981** = Thecate name: *Pyrodinium bahamense* Plate 1906; column heading "15 HZOH" in Wall and others (1977).

T.van **Cyst name: *Tuberculodinium vancampoae* (Rossignol 1962) Wall 1967** = Thecate name: *Pyrophacus vancampoae* Wall & Dale 1971; column heading "27 TUBE" in Wall and others (1977).

B.cari **Cyst name: *Brigantedinium cariacoense* (Wall 1967) Reid 1977** = Thecate name: *Protoperidinium* (*Archaeperidinium* sect. *Fuscusasphaeridinium*) *avellana* (Meunier 1919) Balech 1974 [Turon, 1984, counts may also include cysts of *Protoperidinium denticulatum* (Gran & Braarud 1935) Balech 1974 and *Protoperidinium punctulatum* (Paulsen 1907) Balech 1974]; not tabulated separately in Wall and others (1977).

B.simp **Cyst name: *Brigantedinium simplex* (Wall 1965) Reid 1977** =Thecate name: *Protoperidinium (Protoperidinium* sect. *Brigantedinium) conicoides* (Paulsen 1905) Balech 1974; not tabulated separately in Wall and others (1977).

P.17 **Cyst name: "grouped *Peridinium* spp." *sensu* Wall and others (1977)** = Thecate name(s): *Protoperidinium conicoides* (Paulsen 1905) Balech 1974, *P. punctulatum* (Paulsen 1907) Balech 1974, *P. denticulatum* (Gran & Braarud 1935) Balech 1974, *P.avellana* (Meunier 1919) Balech 1974, *P. excentricum* (Paulsen 1907) Balech 1974, and possibly *Diplopsalis lenticula* Bergh 1881, *Zygabikodinium lenticulatum* (Mangin 1911) Loeblich & Loeblich

1970, and *Diplopsalopsis orbicularis* (Paulsen 1907) Lebour 1922; column heading "17 PRDB" in Wall and others (1977); "Kystes de *Protoperidinium* indét." in Turon (1984).

M.quan — **Cyst name: *Multispinula quanta* Bradford 1975** = Thecate name: *Protoperidinium (Protoperidinium* sect. *Selenopemphix) conicum* (Gran 1900) Balech 1974; column heading "18 PMM6" in Wall and others (1977).

Q.con — **Cyst name: *Quinquecuspis concreta* (Reid 1977) Harland 1977** = Thecate name: *Protoperidinium* (*Protoperidinium* sect. *Quinquecuspis*) *leonis* (Pavillard 1916) Balech 1974; column heading "20 PM31" in Wall and others (1977).

T.capi — **Cyst name: *Trinovantedinium capitatum* Reid 1977** = Thecate name: *Protoperidinium* (subgen. *Protoperidinium*) *pentagonum* (Gran 1902) Balech 1974; column headings "21 PM66" and "22 PM77" combined in Wall and others (1977).

other — Any other forms included in the sum.

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Table 1. Locality and other basic data for samples from Wall and others (1977) and Turon (1984), abbreviations as explained in text.

Snum	Auth	Lat	Long	Depth	Wsst	Ssst	tsource	sum
North Atlantic samples from Wall and others (1977), number of samples = 103								
1	Wall	44.648	-67.342	17	2.2	15.6	NOO67	121
2	Wall	44.617	-67.350	23	2.2	15.6	NOO67	155
3	Wall	44.317	-68.310	16	2.8	16.7	NOO67	279
4	Wall	44.018	-68.502	32	2.8	16.7	NOO67	170
5	Wall	43.757	-69.938	14	2.8	17.2	NOO67	98
6	Wall	43.685	-70.433	38	2.8	17.2	NOO67	409
7	Wall	42.695	-70.560	58	2.8	17.8	NOO67	146
8	Wall	41.961	-70.450	40	2.8	18.3	NOO67	244
10	Wall	41.488	-71.238	4	2.8	19.4	NOO67	147
11	Wall	41.483	-70.900	10	2.8	18.9	NOO67	805
12	Wall	41.438	-71.400	22	2.8	19.4	NOO67	143
13	Wall	41.310	-71.703	26	2.8	20	NOO67	140
14	Wall	41.212	-72.852	15	2.2	20.6	NOO67	118
15	Wall	41.125	-72.172	10	2.2	20.6	NOO67	140
16	Wall	40.451	-72.333	7	3.3	21.7	NOO67	160
17	Wall	40.043	-74.233	19	3.3	21.7	NOO67	200
18	Wall	39.583	-74.198	11	3.9	22.2	NOO67	132
19	Wall	39.058	-74.983	8	4.4	23.3	NOO67	107
21	Wall	38.960	-74.800	12	4.4	23.3	NOO67	163
22	Wall	38.783	-74.950	15	4.4	23.3	NOO67	105
23	Wall	38.283	-75.417	19	5	23.9	NOO67	272
24	Wall	37.245	-76.187	12	5.6	24.4	NOO67	213
25	Wall	37.028	-75.897	10	5.6	24.4	NOO67	143
26	Wall	35.403	-75.697	7	15.6	26.7	NOO67	108
27	Wall	35.367	-75.883	6	15.6	26.7	NOO67	275
28	Wall	35.125	-76.245	7	15.6	26.7	NOO67	129
29	Wall	33.038	-79.545	6	16.1	27.2	NOO67	121
33	Wall	32.163	-80.805	10	16.7	27.2	NOO67	117
34	Wall	31.868	-80.863	12	16.7	27.2	NOO67	173
36	Wall	31.540	-81.228	41	16.7	27.2	NOO67	141
38	Wall	31.408	-81.308	10	16.7	27.2	NOO67	153
39	Wall	31.330	-81.323	4	16.7	27.2	NOO67	152
40	Wall	31.225	-81.227	10	16.7	27.2	NOO67	132
42	Wall	31.167	-81.412	8	16.7	27.2	NOO67	121
43	Wall	40.303	-67.005	2235	8.9	21.1	NOO67	950
44	Wall	40.467	-69.517	66	6.7	19.4	NOO67	264
45	Wall	40.283	-69.520	85	7.2	20	NOO67	417
46	Wall	40.100	-69.500	103	7.8	21.1	NOO67	255
47	Wall	39.967	-69.500	147	8.3	21.1	NOO67	225
48	Wall	39.777	-69.505	1865	8.9	21.7	NOO67	827

Snum	Auth	Lat	Long	Depth	Wsst	Ssst	tsource	sum
49	Wall	39.500	-69.482	2335	9.4	22.2	NO067	556
50	Wall	39.138	-69.463	2840	10.6	23.3	NO067	411
51	Wall	40.900	-70.750	53	5	19.4	NO067	499
52	Wall	40.717	-70.750	60	5.6	19.4	NO067	806
53	Wall	40.567	-70.750	73	5.6	20	NO067	1201
54	Wall	40.383	-70.750	92	6.1	20	NO067	298
55	Wall	40.217	-70.733	129	6.7	20	NO067	737
56	Wall	40.117	-70.750	138	6.7	20.6	NO067	308
57	Wall	39.967	-70.667	300	7.2	21.1	NO067	368
58	Wall	39.700	-70.650	2086	7.8	21.1	NO067	533
59	Wall	39.417	-70.583	2500	8.9	22.2	NO067	544
60	Wall	38.987	-70.488	2850	10.0	22.8	NO067	246
61	Wall	39.817	-72.242	89	5.6	21.7	NO067	234
62	Wall	39.667	-72.233	121	5.6	21.8	NO067	349
63	Wall	39.587	-72.000	292	6.7	22.2	NO067	309
65	Wall	39.258	-71.365	2590	8.3	22.8	NO067	513
66	Wall	39.175	-71.900	2722	8.9	22.8	NO067	508
68	Wall	38.412	-73.317	1060	7.8	23.9	NO067	176
69	Wall	38.330	-73.108	2225	8.9	23.9	NO067	829
70	Wall	38.303	-72.700	2680	10.0	23.9	NO067	158
71	Wall	38.260	-72.483	2910	10.0	24.4	NO067	389
72	Wall	38.240	-72.267	2975	10.0	24.4	NO067	486
73	Wall	32.323	-64.717	22	18.9	27.8	NO067	231
74	Wall	32.375	-64.679	13	18.9	27.8	NO067	328
75	Wall	32.368	-64.663	10	18.9	27.8	NO067	298
76	Wall	32.368	-64.663	10	18.9	27.8	NO067	211
77	Wall	32.352	-64.702	13	18.9	27.8	NO067	273
78	Wall	32.350	-64.683	13	18.9	27.8	NO067	193
79	Wall	32.342	-64.682	15	18.9	27.8	NO067	239
80	Wall	32.257	-64.833	2	18.9	27.8	NO067	135
82	Wall	24.200	-77.950	2	23.9	28.3	NO067	158
83	Wall	24.192	-78.000	2	23.9	28.3	NO067	158
84	Wall	24.208	-78.150	3	23.9	28.3	NO067	138
85	Wall	25.933	-77.258	1	23.3	28.3	NO067	166
86	Wall	25.967	-77.350	1	25.0	28.3	NO067	127
87	Wall	25.066	-77.308	5	25.0	28.3	NO067	103
88	Wall	21.220	-85.517	2600	25.6	28.9	NO067	169
89	Wall	20.283	-86.375	500	25.6	28.9	NO067	123
91	Wall	17.950	-76.733	7	25.6	28.3	NO067	235
92	Wall	18.030	-76.314	370	25.6	28.3	NO067	124
102	Wall	18.022	-67.203	15	25.6	27.8	NO067	136
103	Wall	17.975	-67.015	3	25.6	27.8	NO067	111
105	Wall	17.962	-66.912	10	25.6	27.8	NO067	146
106	Wall	18.000	-66.760	5	25.6	27.8	NO067	122
110	Wall	17.945	-66.223	7	25.6	27.8	NO067	106

Table 1 - Locality data continued

Snum	Auth	Lat	Long	Depth	Wsst	Ssst	tsource	sum
111	Wall	18.125	-65.348	12	25.6	27.8	NOO67	109
113	Wall	10.410	-62.330	14	25.6	27.8	NOO67	131
114	Wall	10.353	-61.805	28	25.6	27.8	NOO67	266
115	Wall	10.408	-62.760	24	25.6	27.8	NOO67	238
116	Wall	10.462	-61.717	22	25.6	27.8	NOO67	584
117	Wall	10.525	-62.673	20	25.6	27.8	NOO67	103
118	Wall	10.580	-61.630	18	25.6	27.8	NOO67	143
136	Wall	62.158	5.997	673	4.4	13.3	NOO67	151
137	Wall	62.170	5.978	680	4.4	13.3	NOO67	451
138	Wall	60.188	5.217	680	4.4	14.4	NOO67	369
139	Wall	60.268	5.139	240	4.4	14.4	NOO67	633
140	Wall	57.062	17.617	113	0.0	15.6	NOO67	176
152	Wall	37.733	25.683	3	15.6	22.8	NOO67	84
153	Wall	29.000	-47.467	3802	20.6	26.7	NOO67	95
154	Wall	28.150	-15.417	6	17.8	21.7	NOO67	194
155	Wall	1.483	-19.717	3474	24.4	27.2	NOO67	94
156	Wall	5.000	-3.750	30	24.4	27.8	NOO67	203
157	Wall	5.000	-3.750	60	24.4	27.8	NOO67	208

Other samples from Wall and others (1977), number of samples = 38

Snum	Auth	Lat	Long	Depth	Wsst	Ssst	tsource	sum
119	Wall	-11.667	-75.500	6	16.0	20.0	NOC81	144
120	Wall	-11.667	-75.500	5	16.0	20.0	NOC81	72
121	Wall	-14.875	-75.652	100	16.0	22.0	NOC81	227
122	Wall	-14.995	-74.762	200	16.0	22.0	NOC81	228
123	Wall	-15.053	-75.828	520	16.0	20.0	NOC81	210
124	Wall	-15.083	-75.845	1000	16.0	22.0	NOC81	232
125	Wall	-15.227	-75.987	3350	16.0	22.0	NOC81	216
126	Wall	-15.067	-75.470	85	16.0	22.0	NOC81	609
127	Wall	-15.170	-75.570	300	16.0	22.0	NOC81	545
128	Wall	-15.183	-75.583	1025	16.0	22.0	NOC81	146
129	Wall	-15.367	-75.758	2700	16.0	22.0	NOC81	195
130	Wall	-36.450	-53.517	500	12.0	20.0	NOC81	382
131	Wall	-36.543	-53.383	1000	12.0	20.0	NOC81	644
132	Wall	-36.212	-52.712	2045	12.0	20.0	NOC81	658
133	Wall	-37.222	-52.750	3320	12.0	19.5	NOC81	356
134	Wall	-37.522	-52.185	3910	13.0	20.0	NOC81	338
135	Wall	-39.523	-51.722	5024	13.0	18.5	NOC81	378
141	Wall	42.267	7.175	2687	12.2	22.8	NOO67	150
142	Wall	34.783	13.150	1474	15.0	25.6	NOO67	205
143	Wall	33.932	19.647	3955	15.6	26.7	NOO67	336
144	Wall	35.750	25.250	1792	15.6	24.4	NOO67	142
145	Wall	32.550	25.253	2780	16.1	25.6	NOO67	240
146	Wall	36.433	28.837	2304	15.6	26.1	NOO67	167
148	Wall	36.025	31.775	2447	15.6	27.8	NOO67	263
149	Wall	35.868	33.287	2158	16.7	27.2	NOO67	285

Snum	Auth	Lat	Long	Depth	Wsst	Ssst	tsource	sum
150	Wall	35.533	35.433	1342	16.7	27.8	NOO67	366
151	Wall	32.033	34.817	183	16.7	27.8	NOO67	379
158	Wall	-6.133	9.033	3586	22.0	27.8	NOC81	304
159	Wall	-27.117	15.127	123	14.0	18.0	NOC81	195
160	Wall	-27.117	14.867	202	14.0	18.0	NOC81	126
161	Wall	-27.083	14.517	349	14.5	20.0	NOC81	277
162	Wall	-27.117	14.300	403	14.5	20.0	NOC81	298
163	Wall	-27.200	13.400	2060	15.0	20.0	NOC81	1064
164	Wall	-29.917	17.017	110	14.0	18.0	NOC81	202
165	Wall	-29.917	16.650	160	14.0	19.0	NOC81	379
166	Wall	-29.900	16.167	176	14.0	19.0	NOC81	608
167	Wall	-29.950	15.600	195	14.5	20.0	NOC81	222
168	Wall	-29.917	14.367	730	15.0	20.0	NOC81	770
North Atlantic samples from Turon (1984), number of samples =45								
SK 01	Turon	44.475	-3.980	4074	10.5	18.0	Turon	138
SK 04 bis	Turon	44.317	-3.450	3773	10.5	18.0	Turon	118
SK 05	Turon	44.345	-3.372	3830	10.5	18.0	Turon	92
SK 06	Turon	44.488	-3.508	3945	10.5	18.0	Turon	16
SK 07	Turon	44.500	-3.530	3940	10.5	18.0	Turon	96
SK 08	Turon	44.490	-3.550	3928	10.5	18.0	Turon	103
SK 09	Turon	44.762	-4.212	4231	10.5	18.0	Turon	171
SK 10	Turon	44.755	-3.748	3788	10.5	18.0	Turon	185
C 6970	Turon	43.833	-4.500	2520	11.0	18.0	Turon	122
C 6964	Turon	44.072	-4.450	1680	11.0	18.0	Turon	20
C 6950	Turon	45.078	-2.955	1877	10.0	18.0	Turon	79
C 6904	Turon	46.067	-4.850	3375	10.0	18.0	Turon	20
KR 72103	Turon	46.770	-8.683	3750	11.0	17.5	Turon	192
C 72104	Turon	46.908	-8.085	4400	11.0	17.0	Turon	203
KR 73102	Turon	58.087	-10.717	2005	9.0	13.5	Turon	218
KR 73104	Turon	61.980	-2.507	1621	8.0	12.0	Turon	276
KR 73105	Turon	63.015	-1.980	1947	7.0	12.0	Turon	248
KR 73110	Turon	55.600	-14.480	2216	10.0	14.5	Turon	519
KR 73111	Turon	51.487	-17.688	4654	11.0	16.0	Turon	202
KR 73112	Turon	50.148	-17.368	4787	11.0	16.5	Turon	226
C 72101	Turon	54.703	-12.783	2885	10.0	15.0	Turon	848
C 73103	Turon	56.282	-11.578	2577	9.0	14.0	Turon	162
C 73139B	Turon	54.642	-16.312	2184	10.0	15.0	Turon	206
C 73128	Turon	58.797	-11.095	1841	9.0	13.0	Turon	370
Orgon KS 09	Turon	66.648	10.953	410	6.0	12.0	Turon	572
KR 7703	Turon	57.948	-29.113	2215	8.0	12.0	Turon	190
KR 7704	Turon	59.807	-27.923	1807	7.0	12.0	Turon	232
KR 7706	Turon	62.010	-24.493	1386	7.0	12.0	Turon	176
KR 7707	Turon	66.598	-10.508	1429	3.0	8.0	Turon	79
KR 7708	Turon	64.867	-8.500	2805	5.0	10.0	Turon	55

Snum	Auth	Lat	Long	Depth	Wsst	Ssst	tsource	sum
KR 7712	Turon	60.937	-17.742	2492	8.0	12.0	Turon	585
KR 7713	Turon	61.333	-18.425	2368	8.0	12.0	Turon	177
KR 7714	Turon	62.457	-20.412	1457	7.0	12.0	Turon	161
KR 7715	Turon	62.947	-21.617	1020	7.0	11.0	Turon	87
KP 7902	Turon	55.157	-32.248	2600	7.0	13.0	Turon	192
KP 7904	Turon	55.583	-35.033	2080	6.0	11.5	Turon	160
KP 7908	Turon	54.417	-34.240	2710	6.5	12.0	Turon	57
KP 7909	Turon	54.238	-34.498	2110	7.0	13.0	Turon	74
KP 7910	Turon	52.323	-35.640	3790	7.0	12.0	Turon	29
KP 7912	Turon	52.767	-35.460	3460	7.0	13.0	Turon	109
KR 7702	Turon	52.710	-36.083	3751	6.5	12.0	Turon	183
HS 02	Turon	40.973	-10.573	3700	14.0	19.0	Turon	88
INMD 69	Turon	34.813	-26.195	4675	17.5	24.0	Turon	93
KP 7469	Turon	45.460	-13.510	3670	12.0	18.0	Turon	307
C 7928	Turon	43.630	-22.757	3625	13.0	19.0	Turon	340

Table 1 - Locality data continued

Table 2. Raw counts of dinocyst taxa in samples from Wall and others (1977) and Turon (1984), abbreviations as explained in text.

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
North Atlantic samples from Wall and others (1977), number of samples = 103									
1	65.	0.	0.	15.	0.	0.	0.	0.	0.
2	59.	0.	0.	29.	4.	0.	0.	0.	1.
3	14.	0.	0.	26.	11.	0.	31.	0.	105.
4	8.	0.	0.	3.	0.	0.	5.	0.	0.
5	42.	0.	0.	7.	1.	0.	0.	1.	0.
6	181.	0.	0.	53.	3.	0.	0.	2.	9.
7	68.	0.	0.	9.	0.	0.	0.	0.	1.
8	120.	0.	0.	28.	0.	0.	0.	0.	1.
10	32.	0.	0.	27.	0.	0.	0.	0.	3.
11	280.	0.	0.	202.	2.	0.	0.	7.	54.
12	65.	0.	0.	32.	1.	0.	0.	0.	4.
13	21.	0.	1.	12.	0.	0.	0.	0.	6.
14	39.	0.	3.	36.	1.	0.	0.	6.	2.
15	37.	0.	0.	29.	0.	0.	0.	1.	4.
16	45.	0.	0.	92.	1.	0.	0.	1.	1.
17	45.	0.	4.	118.	3.	0.	0.	0.	10.
18	58.	0.	0.	49.	0.	0.	0.	0.	2.
19	19.	0.	0.	15.	0.	0.	0.	3.	0.
21	99.	0.	1.	25.	0.	0.	0.	0.	2.
22	27.	0.	1.	22.	0.	0.	0.	0.	2.
23	61.	0.	1.	79.	0.	0.	0.	3.	7.
24	28.	0.	15.	51.	0.	0.	0.	8.	1.
25	89.	0.	0.	9.	0.	0.	0.	0.	2.
26	3.	0.	6.	50.	0.	0.	0.	12.	0.
27	40.	0.	8.	171.	2.	0.	0.	10.	0.
28	0.	1.	9.	72.	0.	0.	0.	4.	0.
29	7.	6.	2.	67.	0.	0.	0.	0.	0.
33	1.	19.	9.	55.	0.	0.	0.	2.	0.
34	9.	0.	19.	58.	1.	0.	0.	0.	0.
36	5.	0.	18.	87.	3.	0.	0.	2.	0.
38	9.	0.	9.	72.	5.	0.	0.	2.	0.
39	1.	0.	7.	82.	4.	0.	0.	0.	0.
40	5.	0.	22.	52.	0.	0.	0.	1.	0.
42	1.	3.	9.	48.	3.	0.	0.	4.	0.
43	442.	0.	0.	55.	14.	0.	0.	45.	22.
44	33.	0.	0.	23.	6.	0.	0.	0.	0.
45	115.	0.	0.	30.	8.	0.	0.	2.	0.
46	39.	0.	0.	17.	6.	0.	0.	1.	1.
47	56.	0.	0.	6.	1.	0.	0.	1.	0.
48	465.	5.	0.	99.	14.	0.	0.	44.	12.

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
North Atlantic samples from Wall and others (1977), number of samples = 103									
1	1.	0.	0.	0.	0.	0.	0.	0.	0.
2	2.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	3.	0.	0.	0.	0.	0.	0.	0.	0.
5	1.	0.	0.	0.	0.	0.	0.	0.	0.
6	16.	0.	0.	0.	0.	0.	0.	0.	0.
7	9.	0.	0.	0.	0.	0.	0.	0.	0.
8	13.	0.	0.	0.	0.	0.	0.	0.	0.
10	2.	0.	0.	0.	0.	0.	0.	0.	0.
11	4.	0.	5.	0.	0.	0.	0.	0.	0.
12	3.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	1.	1.	0.	0.	0.	0.	0.	0.	0.
15	5.	0.	0.	0.	0.	0.	0.	0.	0.
16	2.	0.	0.	0.	0.	0.	0.	0.	0.
17	5.	0.	0.	0.	0.	0.	0.	0.	0.
18	8.	0.	3.	0.	0.	0.	0.	0.	0.
19	2.	0.	0.	0.	0.	0.	0.	0.	2.
21	1.	0.	0.	0.	0.	0.	0.	0.	15.
22	3.	0.	0.	0.	0.	0.	0.	0.	2.
23	5.	2.	3.	0.	0.	0.	0.	0.	12.
24	8.	0.	3.	0.	0.	0.	0.	0.	17.
25	1.	0.	0.	0.	0.	0.	0.	0.	0.
26	5.	0.	1.	0.	0.	0.	0.	0.	9.
27	5.	0.	0.	0.	0.	0.	0.	0.	10.
28	10.	0.	1.	0.	0.	0.	0.	0.	18.
29	6.	0.	0.	0.	0.	0.	0.	0.	2.
33	5.	11.	0.	0.	0.	0.	0.	0.	6.
34	7.	0.	0.	0.	0.	0.	0.	0.	0.
36	4.	0.	0.	0.	0.	0.	0.	0.	3.
38	3.	0.	0.	0.	0.	0.	0.	0.	1.
39	9.	0.	0.	0.	0.	0.	0.	0.	0.
40	3.	2.	0.	0.	0.	0.	0.	0.	3.
42	10.	0.	0.	0.	0.	0.	0.	0.	6.
43	2.	3.	47.	7.	1.	0.	16.	0.	0.
44	1.	0.	0.	0.	0.	0.	0.	0.	0.
45	2.	3.	0.	0.	0.	0.	0.	0.	0.
46	5.	1.	0.	0.	0.	0.	0.	0.	0.
47	2.	0.	1.	0.	0.	0.	0.	0.	0.
48	10.	4.	27.	7.	4.	7.	20.	0.	0.

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
North Atlantic samples from Wall and others (1977), number of samples = 103								
1	0.	0.	1.	11.	4.	0.	1.	23.
2	0.	0.	0.	32.	8.	0.	0.	20.
3	0.	0.	0.	51.	8.	3.	0.	30.
4	0.	0.	0.	141.	9.	0.	0.	1.
5	0.	0.	0.	39.	0.	0.	0.	7.
6	0.	1.	6.	98.	35.	0.	0.	5.
7	0.	0.	0.	53.	6.	0.	0.	0.
8	0.	0.	1.	71.	5.	0.	0.	5.
10	0.	0.	0.	73.	0.	1.	0.	9.
11	0.	0.	1.	4.	8.	1.	0.	237.
12	0.	0.	0.	29.	4.	1.	0.	4.
13	0.	0.	0.	93.	4.	0.	0.	3.
14	0.	0.	1.	20.	3.	0.	0.	5.
15	1.	0.	0.	48.	3.	1.	0.	11.
16	0.	0.	0.	14.	4.	0.	0.	0.
17	0.	0.	0.	11.	4.	0.	0.	0.
18	0.	0.	0.	10.	1.	0.	0.	1.
19	0.	0.	0.	61.	4.	1.	0.	0.
21	0.	0.	0.	19.	0.	0.	0.	1.
22	0.	0.	0.	44.	0.	2.	0.	2.
23	3.	0.	0.	56.	3.	10.	0.	27.
24	0.	0.	0.	64.	5.	1.	1.	11.
25	0.	0.	0.	41.	1.	0.	0.	0.
26	0.	0.	0.	11.	4.	0.	0.	7.
27	2.	0.	0.	18.	7.	0.	0.	2.
28	2.	0.	0.	6.	5.	0.	0.	1.
29	15.	0.	0.	9.	3.	0.	0.	4.
33	4.	0.	0.	2.	2.	0.	0.	1.
34	6.	0.	0.	35.	8.	2.	0.	28.
36	1.	0.	0.	7.	1.	0.	0.	10.
38	7.	0.	0.	27.	6.	0.	0.	12.
39	2.	0.	0.	15.	21.	0.	1.	10.
40	10.	0.	0.	25.	5.	0.	0.	4.
42	9.	0.	0.	18.	5.	1.	0.	4.
43	1.	0.	2.	287.	2.	0.	2.	2.
44	0.	1.	1.	181.	13.	0.	0.	5.
45	0.	0.	0.	244.	8.	0.	0.	5.
46	0.	0.	0.	165.	10.	0.	0.	10.
47	0.	0.	0.	148.	5.	0.	0.	5.
48	0.	0.	1.	83.	4.	0.	0.	21.

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
49	300.	1.	0.	64.	10.	0.	0.	47.	15.
50	169.	0.	1.	28.	1.	0.	0.	48.	7.
51	203.	0.	0.	79.	8.	0.	0.	0.	16.
52	436.	0.	1.	74.	4.	1.	0.	0.	6.
53	436.	0.	0.	139.	18.	2.	0.	4.	6.
54	33.	0.	0.	43.	3.	0.	0.	1.	1.
55	189.	0.	0.	76.	9.	0.	0.	1.	1.
56	86.	0.	0.	20.	0.	0.	0.	4.	1.
57	74.	0.	3.	19.	5.	0.	0.	38.	1.
58	238.	0.	0.	67.	9.	0.	0.	40.	18.
59	231.	0.	1.	43.	0.	0.	0.	91.	6.
60	76.	0.	0.	15.	3.	0.	0.	27.	3.
61	83.	0.	0.	27.	11.	0.	0.	0.	5.
62	154.	0.	0.	35.	22.	0.	0.	4.	1.
63	98.	0.	0.	30.	4.	0.	0.	31.	1.
65	174.	0.	0.	50.	3.	1.	0.	51.	6.
66	193.	0.	1.	24.	2.	0.	0.	59.	6.
68	81.	0.	0.	22.	3.	0.	0.	2.	2.
69	345.	0.	1.	72.	15.	0.	0.	93.	12.
70	38.	0.	0.	11.	3.	0.	0.	18.	1.
71	147.	0.	1.	26.	10.	0.	0.	41.	2.
72	156.	0.	0.	37.	29.	0.	2.	48.	4.
73	0.	12.	121.	42.	0.	0.	0.	0.	0.
74	0.	3.	6.	14.	7.	0.	0.	0.	0.
75	5.	6.	18.	22.	1.	0.	0.	0.	0.
76	14.	0.	11.	14.	2.	0.	0.	0.	0.
77	0.	1.	3.	4.	0.	0.	0.	0.	0.
78	0.	0.	0.	3.	0.	0.	0.	0.	0.
79	3.	3.	11.	31.	3.	0.	0.	0.	0.
80	2.	2.	16.	10.	4.	0.	0.	0.	0.
82	19.	3.	17.	62.	2.	0.	0.	0.	0.
83	22.	5.	18.	62.	3.	0.	0.	0.	0.
84	34.	3.	11.	58.	2.	0.	0.	2.	0.
85	93.	14.	1.	47.	0.	0.	0.	0.	0.
86	90.	6.	0.	29.	0.	0.	0.	0.	0.
87	13.	1.	1.	73.	4.	0.	0.	0.	0.
88	35.	2.	9.	72.	5.	0.	0.	1.	0.
89	12.	0.	1.	73.	2.	0.	0.	0.	0.
91	0.	71.	39.	27.	2.	0.	0.	0.	0.
92	10.	10.	10.	78.	5.	0.	0.	0.	0.
102	57.	0.	0.	68.	4.	0.	0.	0.	0.
103	0.	7.	0.	6.	0.	0.	0.	0.	0.
105	0.	13.	84.	12.	0.	0.	0.	1.	0.
106	2.	66.	31.	5.	0.	0.	0.	1.	0.
110	8.	13.	14.	31.	0.	0.	0.	0.	0.

Table 2 - Raw counts continued

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
49	0.	3.	13.	6.	8.	3.	6.	1.	0.
50	0.	2.	38.	2.	11.	2.	18.	0.	0.
51	21.	0.	6.	0.	0.	0.	1.	0.	0.
52	35.	2.	1.	0.	0.	0.	0.	0.	0.
53	78.	6.	1.	0.	0.	0.	0.	0.	0.
54	13.	0.	0.	1.	0.	0.	0.	0.	0.
55	51.	4.	0.	0.	0.	0.	1.	0.	0.
56	15.	1.	0.	0.	0.	0.	2.	0.	0.
57	21.	0.	1.	0.	0.	0.	8.	0.	0.
58	12.	5.	14.	2.	4.	0.	20.	0.	0.
59	24.	0.	31.	6.	1.	0.	28.	0.	0.
60	3.	0.	20.	3.	0.	1.	21.	0.	0.
61	10.	1.	0.	0.	0.	0.	0.	0.	0.
62	31.	2.	1.	0.	1.	0.	4.	0.	0.
63	10.	0.	2.	0.	3.	1.	16.	0.	0.
65	10.	1.	25.	0.	7.	0.	27.	0.	0.
66	3.	1.	34.	2.	10.	3.	36.	0.	0.
68	1.	0.	3.	0.	0.	1.	3.	0.	0.
69	5.	7.	14.	2.	2.	0.	42.	1.	0.
70	0.	2.	3.	1.	1.	0.	9.	0.	0.
71	4.	0.	18.	3.	4.	0.	35.	0.	0.
72	8.	5.	36.	3.	3.	1.	67.	1.	0.
73	2.	2.	0.	0.	0.	0.	0.	0.	41.
74	4.	0.	0.	0.	0.	0.	0.	0.	291.
75	1.	0.	0.	0.	0.	0.	0.	0.	240.
76	1.	0.	0.	0.	0.	0.	0.	0.	168.
77	0.	0.	0.	0.	0.	0.	0.	0.	265.
78	0.	0.	0.	0.	0.	0.	0.	0.	190.
79	2.	0.	0.	0.	0.	0.	0.	0.	185.
80	4.	0.	2.	0.	0.	0.	0.	0.	91.
82	9.	13.	0.	0.	0.	0.	0.	0.	32.
83	4.	12.	5.	0.	0.	0.	0.	0.	23.
84	2.	12.	2.	0.	0.	0.	0.	0.	12.
85	0.	0.	0.	0.	0.	0.	0.	0.	6.
86	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	4.	3.	0.	0.	0.	0.	0.	0.	0.
88	10.	0.	1.	10.	1.	1.	0.	4.	17.
89	10.	1.	1.	14.	2.	0.	1.	4.	0.
91	1.	0.	0.	0.	0.	0.	0.	0.	0.
92	3.	0.	0.	0.	3.	1.	0.	0.	0.
102	0.	0.	0.	0.	0.	0.	0.	0.	1.
103	0.	0.	0.	0.	0.	0.	0.	0.	61.
105	1.	0.	0.	0.	0.	0.	0.	0.	33.
106	0.	2.	0.	0.	0.	0.	0.	0.	6.
110	1.	2.	0.	0.	0.	0.	0.	0.	21.

Table 2 - Raw counts continued

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
49	0.	0.	0.	67.	4.	0.	0.	8.
50	0.	0.	0.	82.	1.	0.	0.	1.
51	0.	0.	0.	150.	12.	0.	0.	3.
52	1.	0.	0.	234.	9.	0.	0.	2.
53	0.	0.	0.	480.	28.	1.	0.	2.
54	1.	0.	0.	198.	3.	0.	0.	1.
55	0.	0.	0.	389.	14.	1.	0.	1.
56	0.	0.	0.	170.	9.	0.	0.	0.
57	0.	0.	1.	185.	8.	0.	0.	4.
58	1.	0.	0.	94.	4.	0.	0.	5.
59	0.	0.	0.	75.	2.	1.	1.	3.
60	0.	0.	0.	65.	6.	0.	0.	3.
61	0.	0.	0.	92.	5.	0.	0.	0.
62	0.	0.	0.	92.	2.	0.	0.	0.
63	0.	0.	0.	97.	11.	0.	0.	5.
65	0.	0.	0.	146.	7.	0.	2.	3.
66	0.	0.	0.	126.	6.	0.	0.	2.
68	1.	0.	1.	49.	0.	0.	1.	6.
69	0.	0.	3.	195.	9.	0.	3.	8.
70	0.	0.	1.	66.	2.	0.	0.	2.
71	0.	0.	0.	88.	7.	0.	0.	3.
72	0.	0.	2.	83.	0.	0.	0.	1.
73	0.	0.	0.	0.	11.	0.	0.	0.
74	0.	0.	0.	0.	0.	0.	0.	3.
75	0.	0.	0.	0.	0.	0.	0.	5.
76	0.	0.	0.	0.	0.	0.	0.	1.
77	0.	0.	0.	0.	0.	0.	0.	0.
78	0.	0.	0.	0.	0.	0.	0.	0.
79	1.	0.	0.	0.	0.	0.	0.	0.
80	1.	0.	0.	3.	0.	0.	0.	0.
82	0.	0.	0.	0.	0.	0.	0.	1.
83	0.	0.	0.	0.	0.	0.	0.	4.
84	0.	0.	0.	0.	0.	0.	0.	0.
85	0.	0.	0.	0.	0.	0.	0.	5.
86	0.	0.	0.	0.	0.	0.	0.	2.
87	0.	0.	0.	0.	0.	0.	0.	4.
88	0.	0.	0.	0.	0.	0.	0.	1.
89	0.	0.	0.	0.	0.	0.	0.	2.
91	0.	0.	0.	8.	50.	29.	1.	7.
92	0.	0.	0.	4.	0.	0.	0.	0.
102	0.	0.	0.	0.	2.	0.	0.	4.
103	6.	0.	0.	1.	1.	0.	0.	29.
105	0.	0.	0.	1.	1.	0.	0.	0.
106	5.	0.	0.	2.	0.	2.	0.	0.
110	1.	0.	0.	6.	8.	1.	0.	0.

Table 2 - Raw counts continued

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
111	4.	12.	33.	46.	5.	0.	0.	0.	0.
113	0.	1.	20.	22.	55.	0.	0.	8.	0.
114	3.	0.	149.	21.	73.	0.	0.	5.	0.
115	1.	0.	115.	26.	76.	0.	0.	3.	0.
116	0.	1.	290.	49.	210.	0.	0.	8.	0.
117	0.	0.	44.	9.	36.	0.	0.	1.	0.
118	0.	0.	48.	29.	28.	0.	0.	4.	0.
136	116.	0.	0.	13.	1.	0.	1.	12.	5.
137	291.	0.	2.	45.	2.	3.	9.	15.	3.
138	243.	0.	9.	44.	4.	0.	1.	10.	0.
139	391.	0.	10.	113.	12.	0.	1.	7.	8.
140	70.	0.	1.	16.	0.	0.	0.	0.	0.
152	7.	0.	0.	1.	0.	0.	0.	0.	0.
153	0.	0.	0.	0.	0.	0.	0.	0.	3.
154	4.	0.	23.	33.	0.	0.	0.	0.	0.
155	0.	0.	0.	3.	0.	0.	0.	7.	0.
156	26.	0.	1.	39.	15.	0.	0.	1.	0.
157	21.	0.	2.	63.	70.	0.	0.	0.	0.
Other samples from Wall and others (1977), number of samples = 38									
119	0.	0.	0.	7.	0.	0.	0.	0.	0.
120	0.	0.	0.	4.	0.	0.	0.	0.	0.
121	0.	0.	0.	27.	0.	0.	0.	0.	0.
122	0.	0.	0.	75.	1.	0.	0.	3.	0.
123	0.	0.	0.	5.	0.	0.	0.	0.	0.
124	58.	0.	1.	21.	0.	0.	0.	4.	0.
125	72.	0.	0.	28.	0.	0.	0.	6.	0.
126	1.	0.	0.	23.	0.	0.	0.	1.	0.
127	0.	0.	0.	46.	0.	0.	0.	0.	0.
128	2.	0.	0.	3.	1.	0.	0.	0.	0.
129	3.	0.	0.	7.	0.	0.	0.	3.	0.
130	127.	0.	0.	213.	10.	0.	0.	1.	0.
131	338.	0.	0.	191.	5.	0.	0.	9.	0.
132	398.	2.	0.	157.	33.	0.	0.	14.	0.
133	202.	0.	0.	51.	36.	0.	0.	28.	0.
134	183.	0.	0.	102.	10.	0.	0.	4.	0.
135	270.	0.	0.	42.	21.	0.	0.	12.	0.
141	22.	0.	8.	13.	0.	0.	0.	73.	0.
142	27.	0.	3.	29.	15.	0.	0.	2.	0.
143	24.	0.	45.	150.	19.	0.	0.	8.	0.
144	45.	0.	6.	18.	13.	5.	0.	10.	7.
145	3.	0.	13.	3.	0.	0.	0.	114.	0.
146	16.	0.	11.	36.	0.	0.	0.	7.	0.
148	51.	0.	10.	27.	10.	0.	0.	11.	0.
149	19.	0.	24.	28.	0.	0.	0.	15.	0.

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
111	1.	6.	0.	0.	0.	0.	0.	0.	0.
113	0.	0.	0.	0.	0.	0.	0.	0.	0.
114	0.	0.	0.	0.	0.	0.	0.	0.	0.
115	1.	0.	0.	0.	0.	0.	0.	0.	1.
116	0.	0.	0.	0.	0.	0.	0.	0.	0.
117	0.	0.	0.	0.	0.	0.	0.	0.	0.
118	0.	0.	0.	0.	0.	0.	0.	0.	0.
136	0.	0.	0.	0.	0.	0.	0.	0.	0.
137	0.	0.	0.	0.	0.	0.	0.	0.	0.
138	0.	3.	0.	0.	0.	0.	0.	0.	0.
139	11.	0.	0.	0.	0.	0.	0.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.
152	0.	0.	0.	0.	0.	0.	0.	0.	0.
153	0.	0.	1.	27.	12.	18.	12.	22.	0.
154	2.	0.	0.	0.	0.	0.	0.	0.	0.
155	1.	0.	0.	42.	10.	16.	10.	5.	0.
156	12.	0.	0.	0.	0.	0.	0.	0.	0.
157	0.	0.	0.	0.	0.	0.	0.	0.	0.
Other samples from Wall and others (1977), number of samples = 38									
119	0.	0.	0.	0.	0.	0.	0.	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.
121	0.	0.	0.	0.	0.	0.	0.	0.	0.
122	0.	1.	0.	0.	0.	0.	0.	0.	0.
123	0.	0.	0.	0.	0.	0.	0.	0.	0.
124	3.	4.	37.	0.	0.	0.	0.	5.	7.
125	0.	0.	0.	0.	0.	0.	0.	0.	1.
126	0.	3.	0.	0.	0.	0.	0.	0.	0.
127	0.	5.	0.	0.	0.	0.	0.	0.	0.
128	0.	1.	0.	0.	1.	0.	0.	0.	1.
129	0.	0.	0.	0.	0.	0.	0.	0.	0.
130	14.	9.	0.	0.	0.	0.	2.	0.	0.
131	19.	18.	0.	0.	0.	0.	11.	0.	0.
132	12.	10.	0.	0.	0.	0.	5.	0.	0.
133	10.	4.	0.	0.	1.	0.	6.	0.	0.
134	18.	4.	0.	0.	0.	1.	2.	0.	0.
135	11.	9.	0.	1.	0.	0.	5.	0.	0.
141	2.	2.	3.	3.	0.	2.	6.	0.	1.
142	11.	0.	0.	88.	9.	5.	8.	4.	0.
143	8.	12.	0.	33.	11.	0.	2.	1.	2.
144	5.	0.	0.	12.	3.	6.	2.	2.	5.
145	0.	0.	0.	34.	0.	26.	0.	0.	44.
146	8.	2.	0.	62.	9.	0.	5.	0.	2.
148	5.	0.	0.	117.	13.	4.	0.	0.	1.
149	4.	0.	0.	154.	13.	14.	5.	0.	0.

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
111	0.	0.	0.	1.	0.	0.	0.	1.
113	1.	0.	0.	15.	2.	4.	1.	2.
114	0.	0.	0.	2.	5.	3.	1.	4.
115	0.	0.	0.	4.	0.	6.	0.	5.
116	1.	0.	0.	8.	9.	1.	2.	5.
117	1.	0.	0.	3.	6.	1.	1.	1.
118	0.	0.	0.	9.	14.	4.	1.	6.
136	0.	0.	0.	2.	0.	0.	1.	0.
137	0.	0.	0.	26.	14.	0.	41.	0.
138	0.	0.	0.	30.	14.	0.	11.	0.
139	0.	0.	0.	9.	15.	0.	56.	0.
140	0.	0.	0.	0.	0.	0.	0.	89.
152	0.	0.	0.	4.	0.	0.	0.	72.
153	0.	0.	0.	0.	0.	0.	0.	0.
154	0.	0.	0.	4.	2.	2.	0.	124.
155	0.	0.	0.	0.	0.	0.	0.	0.
156	22.	0.	0.	9.	5.	8.	0.	65.
157	10.	2.	0.	24.	2.	2.	0.	12.

Other samples from Wall and others (1977), number of samples = 38

119	0.	0.	0.	118.	0.	2.	0.	17.
120	0.	0.	0.	55.	1.	1.	0.	11.
121	0.	1.	0.	85.	0.	0.	0.	114.
122	0.	1.	0.	99.	1.	0.	0.	47.
123	0.	4.	0.	155.	0.	0.	0.	46.
124	0.	1.	0.	70.	2.	2.	0.	17.
125	0.	1.	0.	90.	0.	1.	0.	17.
126	0.	0.	0.	320.	8.	5.	0.	248.
127	0.	0.	0.	165.	4.	0.	0.	325.
128	0.	0.	0.	128.	0.	0.	0.	9.
129	1.	0.	0.	151.	0.	12.	0.	18.
130	0.	0.	0.	3.	0.	0.	0.	3.
131	0.	0.	0.	35.	2.	0.	0.	16.
132	0.	0.	0.	14.	0.	0.	0.	13.
133	0.	0.	0.	16.	0.	0.	0.	2.
134	0.	0.	0.	12.	0.	0.	0.	2.
135	0.	0.	0.	7.	0.	0.	0.	0.
141	1.	0.	0.	12.	0.	0.	0.	2.
142	0.	0.	0.	0.	0.	0.	0.	4.
143	1.	0.	0.	7.	0.	0.	0.	13.
144	1.	0.	0.	0.	1.	0.	0.	1.
145	0.	0.	0.	0.	0.	0.	0.	3.
146	0.	0.	0.	1.	0.	0.	0.	8.
148	0.	0.	0.	0.	0.	0.	0.	14.
149	0.	0.	0.	0.	0.	0.	0.	9.

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
150	64.	0.	65.	153.	16.	0.	0.	5.	0.
151	9.	7.	318.	18.	8.	0.	0.	0.	0.
158	140.	0.	6.	4.	0.	0.	0.	4.	0.
159	14.	0.	0.	53.	0.	0.	0.	0.	0.
160	27.	0.	0.	19.	0.	0.	0.	7.	0.
161	157.	0.	0.	90.	0.	0.	0.	23.	0.
162	183.	0.	0.	76.	1.	0.	0.	26.	0.
163	760.	0.	0.	107.	2.	0.	0.	134.	0.
164	23.	0.	0.	87.	0.	0.	0.	0.	0.
165	176.	0.	0.	159.	0.	0.	0.	0.	0.
166	360.	0.	0.	176.	3.	0.	0.	0.	0.
167	160.	0.	0.	46.	1.	0.	0.	0.	2.
168	618.	0.	0.	80.	10.	0.	0.	19.	0.
North Atlantic samples from Turon (1984), number of samples =45									
SK 01	1.	0.	0.	0.	0.	0.	3.	4.	0.
SK 04 bis	7.	0.	2.	0.	0.	0.	10.	0.	0.
SK 05	4.	0.	0.	1.	0.	0.	8.	1.	0.
SK 06	0.	0.	4.	1.	0.	0.	7.	0.	0.
SK 07	1.	0.	3.	1.	0.	0.	11.	0.	0.
SK 08	1.	0.	3.	0.	0.	0.	25.	0.	0.
SK 09	3.	0.	0.	0.	0.	0.	15.	10.	0.
SK 10	2.	0.	0.	0.	0.	0.	13.	0.	0.
C 6970	13.	0.	0.	1.	0.	0.	1.	0.	0.
C 6964	0.	0.	0.	0.	0.	0.	0.	0.	0.
C 6950	2.	0.	0.	0.	1.	0.	6.	0.	0.
C 6904	1.	0.	0.	0.	0.	0.	0.	0.	0.
KR 72103	3.	0.	0.	0.	0.	0.	1.	4.	0.
C 72104	8.	0.	0.	0.	0.	0.	11.	1.	0.
KR 73102	125.	0.	0.	1.	0.	2.	57.	1.	4.
KR 73104	42.	0.	0.	1.	0.	0.	144.	2.	1.
KR 73105	34.	0.	0.	0.	0.	0.	79.	6.	2.
KR 73110	265.	0.	0.	2.	1.	1.	122.	48.	25.
KR 73111	4.	0.	1.	0.	1.	0.	13.	11.	1.
KR 73112	9.	0.	0.	1.	0.	0.	11.	6.	3.
C 72101	761.	0.	1.	3.	0.	0.	18.	16.	7.
C 73103	72.	0.	1.	0.	0.	0.	16.	2.	5.
C 73139B	95.	0.	0.	2.	0.	0.	67.	1.	1.
C 73128	248.	0.	0.	5.	0.	4.	33.	9.	9.
Orgon KS 09	493.	0.	0.	12.	0.	0.	8.	17.	17.
KR 7703	18.	0.	0.	3.	0.	0.	42.	13.	10.
KR 7704	39.	0.	0.	9.	0.	0.	21.	17.	8.
KR 7706	13.	0.	0.	1.	0.	0.	66.	8.	3.
KR 7707	56.	0.	0.	0.	0.	0.	3.	4.	0.
KR 7708	14.	0.	0.	0.	0.	0.	5.	0.	0.

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
150	6.	11.	0.	26.	2.	2.	0.	1.	7.
151	12.	0.	0.	0.	0.	0.	0.	0.	0.
158	0.	132.	0.	2.	1.	1.	0.	0.	1.
159	0.	0.	0.	0.	0.	0.	0.	0.	0.
160	0.	0.	0.	0.	0.	0.	0.	0.	0.
161	1.	0.	1.	0.	0.	0.	0.	0.	0.
162	2.	1.	4.	0.	0.	0.	1.	0.	0.
163	0.	1.	1.	4.	6.	0.	1.	0.	0.
164	0.	0.	0.	0.	0.	0.	0.	0.	0.
165	3.	11.	0.	0.	0.	0.	0.	0.	0.
166	2.	35.	0.	0.	0.	0.	1.	0.	0.
167	0.	10.	0.	0.	0.	0.	1.	0.	0.
168	19.	10.	1.	0.	0.	1.	2.	0.	0.
North Atlantic samples from Turon (1984), number of samples =45									
SK 01	9.	0.	0.	111.	3.	0.	4.	1.	0.
SK 04 bis	16.	0.	0.	71.	1.	1.	9.	0.	0.
SK 05	11.	0.	0.	45.	4.	0.	7.	0.	1.
SK 06	0.	0.	0.	3.	0.	0.	0.	0.	0.
SK 07	5.	0.	0.	61.	2.	0.	2.	1.	0.
SK 08	4.	0.	0.	60.	4.	0.	3.	2.	0.
SK 09	21.	0.	0.	102.	5.	0.	7.	1.	0.
SK 10	31.	0.	0.	115.	8.	0.	6.	2.	0.
C 6970	11.	0.	0.	69.	2.	1.	5.	0.	0.
C 6964	0.	0.	0.	14.	1.	0.	4.	0.	0.
C 6950	7.	0.	1.	39.	1.	1.	11.	0.	0.
C 6904	2.	0.	0.	14.	1.	0.	2.	0.	0.
KR 72103	41.	0.	0.	123.	7.	0.	11.	0.	0.
C 72104	35.	0.	0.	107.	14.	0.	12.	1.	0.
KR 73102	2.	0.	0.	1.	1.	0.	3.	0.	0.
KR 73104	0.	0.	0.	1.	1.	0.	15.	0.	0.
KR 73105	0.	0.	0.	0.	2.	0.	14.	0.	0.
KR 73110	10.	0.	0.	2.	2.	0.	13.	0.	0.
KR 73111	77.	0.	0.	35.	18.	0.	14.	4.	0.
KR 73112	89.	0.	0.	50.	19.	0.	19.	1.	0.
C 72101	4.	0.	0.	2.	0.	1.	3.	0.	0.
C 73103	0.	0.	0.	3.	1.	0.	5.	0.	0.
C 73139B	3.	0.	0.	3.	2.	0.	23.	0.	0.
C 73128	1.	0.	0.	0.	0.	0.	8.	1.	0.
Orgon KS 09	7.	0.	0.	0.	1.	0.	10.	0.	0.
KR 7703	1.	0.	0.	6.	13.	0.	55.	1.	0.
KR 7704	0.	0.	0.	0.	2.	0.	71.	0.	0.
KR 7706	0.	0.	0.	1.	4.	0.	51.	0.	0.
KR 7707	0.	0.	0.	0.	0.	0.	2.	0.	0.
KR 7708	0.	0.	0.	0.	0.	0.	1.	0.	0.

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
150	0.	0.	0.	4.	0.	0.	0.	4.
151	0.	0.	0.	0.	2.	0.	0.	5.
158	0.	4.	0.	0.	1.	0.	0.	8.
159	0.	0.	0.	53.	1.	3.	0.	71.
160	0.	0.	0.	45.	1.	4.	0.	23.
161	0.	0.	0.	2.	0.	0.	0.	3.
162	0.	0.	0.	2.	0.	0.	0.	2.
163	0.	0.	0.	35.	0.	0.	2.	11.
164	0.	0.	0.	0.	0.	5.	0.	87.
165	0.	0.	0.	12.	2.	2.	2.	12.
166	0.	0.	0.	25.	1.	1.	1.	3.
167	0.	0.	0.	2.	0.	0.	0.	0.
168	0.	0.	0.	9.	0.	0.	1.	0.
North Atlantic samples from Turon (1984), number of samples =45								
SK 01	0.	1.	1.	0.	0.	0.	0.	0.
SK 04 bis	0.	0.	0.	0.	0.	0.	0.	1.
SK 05	0.	1.	1.	0.	0.	0.	0.	8.
SK 06	0.	0.	0.	0.	0.	1.	0.	0.
SK 07	0.	1.	0.	0.	0.	0.	1.	7.
SK 08	0.	0.	0.	0.	0.	0.	0.	1.
SK 09	0.	2.	4.	0.	0.	0.	0.	1.
SK 10	0.	0.	6.	0.	0.	0.	0.	2.
C 6970	0.	7.	2.	0.	1.	0.	0.	9.
C 6964	0.	0.	0.	0.	0.	0.	0.	1.
C 6950	0.	4.	2.	0.	0.	1.	0.	3.
C 6904	0.	0.	0.	0.	0.	0.	0.	0.
KR 72103	0.	0.	0.	0.	0.	1.	0.	1.
C 72104	0.	0.	7.	0.	0.	0.	1.	6.
KR 73102	0.	2.	10.	2.	0.	3.	2.	2.
KR 73104	0.	12.	35.	9.	2.	7.	2.	2.
KR 73105	0.	13.	89.	5.	0.	1.	3.	0.
KR 73110	0.	2.	8.	0.	0.	2.	0.	16.
KR 73111	0.	2.	6.	0.	0.	0.	0.	15.
KR 73112	0.	1.	1.	1.	0.	1.	0.	14.
C 72101	0.	3.	9.	0.	0.	1.	15.	4.
C 73103	0.	5.	44.	0.	0.	3.	2.	3.
C 73139B	0.	1.	2.	2.	0.	0.	1.	3.
C 73128	0.	5.	23.	2.	2.	8.	7.	5.
Orgon KS 09	0.	0.	1.	2.	0.	0.	2.	2.
KR 7703	0.	4.	10.	5.	0.	1.	3.	5.
KR 7704	0.	8.	47.	0.	0.	0.	5.	5.
KR 7706	0.	4.	19.	0.	0.	1.	5.	0.
KR 7707	0.	4.	10.	0.	0.	0.	0.	0.
KR 7708	0.	15.	19.	0.	0.	0.	0.	1.

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
KR 7712	91.	0.	0.	6.	0.	0.	178.	10.	17.
KR 7713	8.	0.	0.	1.	0.	0.	95.	0.	3.
KR 7714	19.	0.	0.	1.	0.	3.	39.	9.	4.
KR 7715	6.	0.	0.	0.	0.	0.	8.	18.	8.
KP 7902	35.	0.	0.	0.	0.	0.	25.	29.	6.
KP 7904	17.	0.	0.	0.	0.	1.	30.	71.	1.
KP 7908	2.	0.	0.	0.	0.	0.	28.	3.	0.
KP 7909	13.	0.	1.	0.	0.	0.	5.	35.	2.
KP 7910	2.	0.	0.	0.	0.	0.	5.	4.	0.
KP 7912	29.	0.	0.	0.	0.	0.	9.	33.	1.
KR 7702	5.	0.	0.	1.	1.	1.	15.	69.	6.
HS 02	0.	0.	1.	0.	0.	0.	0.	0.	0.
INMD 69	0.	0.	0.	0.	0.	0.	0.	0.	0.
KP 7469	2.	0.	0.	0.	0.	0.	0.	0.	1.
C 7928	15.	0.	0.	0.	0.	0.	26.	7.	3.

Table 2 - Raw counts continued

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
KR 7712	0.	0.	0.	2.	7.	0.	183.	0.	0.
KR 7713	0.	0.	0.	1.	1.	1.	37.	0.	0.
KR 7714	0.	0.	0.	0.	1.	0.	15.	0.	0.
KR 7715	0.	0.	0.	0.	1.	0.	14.	0.	0.
KP 7902	1.	0.	0.	6.	13.	0.	42.	0.	0.
KP 7904	0.	0.	0.	2.	4.	0.	12.	0.	0.
KP 7908	0.	0.	0.	0.	2.	0.	21.	0.	0.
KP 7909	0.	0.	0.	4.	2.	0.	9.	0.	0.
KP 7910	0.	0.	0.	1.	1.	1.	15.	0.	0.
KP 7912	0.	0.	0.	5.	2.	0.	28.	2.	0.
KR 7702	1.	0.	0.	7.	7.	3.	62.	1.	0.
HS 02	10.	0.	0.	41.	3.	26.	4.	2.	0.
INMD 69	0.	0.	0.	41.	9.	15.	13.	15.	0.
KP 7469	247.	0.	0.	12.	5.	1.	15.	5.	0.
C 7928	248.	0.	0.	18.	4.	1.	12.	1.	0.

Table 2 - Raw counts continued

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
KR 7712	0.	15.	64.	0.	0.	2.	10.	0.
KR 7713	0.	3.	24.	1.	0.	0.	1.	1.
KR 7714	0.	9.	53.	2.	2.	0.	3.	1.
KR 7715	0.	3.	20.	5.	0.	1.	3.	0.
KP 7902	0.	1.	29.	0.	0.	0.	0.	5.
KP 7904	0.	3.	18.	0.	0.	0.	1.	0.
KP 7908	0.	0.	1.	0.	0.	0.	0.	0.
KP 7909	0.	0.	2.	0.	0.	0.	1.	0.
KP 7910	0.	0.	0.	0.	0.	0.	0.	0.
KP 7912	0.	0.	0.	0.	0.	0.	0.	0.
KR 7702	0.	0.	2.	0.	0.	0.	1.	1.
HS 02	0.	0.	0.	0.	0.	0.	0.	1.
INMD 69	0.	0.	0.	0.	0.	0.	0.	0.
KP 7469	0.	3.	3.	1.	0.	0.	1.	11.
C 7928	0.	2.	2.	1.	0.	0.	0.	0.

Table 2 - Raw counts continued

Table 3. Percentage values, based on a denominator of all forms counted, of dinocyst taxa in samples from Wall and others (1977) and Turon (1984), abbreviations as explained in text.

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
North Atlantic samples from Wall and others (1977), number of samples = 103									
1	53.7	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0
2	38.1	0.0	0.0	18.7	2.6	0.0	0.0	0.0	0.6
3	5.0	0.0	0.0	9.3	3.9	0.0	11.1	0.0	37.6
4	4.7	0.0	0.0	1.8	0.0	0.0	2.9	0.0	0.0
5	42.9	0.0	0.0	7.1	1.0	0.0	0.0	1.0	0.0
6	44.3	0.0	0.0	13.0	0.7	0.0	0.0	0.5	2.2
7	46.6	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.7
8	49.2	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.4
10	21.8	0.0	0.0	18.4	0.0	0.0	0.0	0.0	2.0
11	34.8	0.0	0.0	25.1	0.2	0.0	0.0	0.9	6.7
12	45.5	0.0	0.0	22.4	0.7	0.0	0.0	0.0	2.8
13	15.0	0.0	0.7	8.6	0.0	0.0	0.0	0.0	4.3
14	33.1	0.0	2.5	30.5	0.8	0.0	0.0	5.1	1.7
15	26.4	0.0	0.0	20.7	0.0	0.0	0.0	0.7	2.9
16	28.1	0.0	0.0	57.5	0.6	0.0	0.0	0.6	0.6
17	22.5	0.0	2.0	59.0	1.5	0.0	0.0	0.0	5.0
18	43.9	0.0	0.0	37.1	0.0	0.0	0.0	0.0	1.5
19	17.8	0.0	0.0	14.0	0.0	0.0	0.0	2.8	0.0
21	60.7	0.0	0.6	15.3	0.0	0.0	0.0	0.0	1.2
22	25.7	0.0	1.0	21.0	0.0	0.0	0.0	0.0	1.9
23	22.4	0.0	0.4	29.0	0.0	0.0	0.0	1.1	2.6
24	13.1	0.0	7.0	23.9	0.0	0.0	0.0	3.8	0.5
25	62.2	0.0	0.0	6.3	0.0	0.0	0.0	0.0	1.4
26	2.8	0.0	5.6	46.3	0.0	0.0	0.0	11.1	0.0
27	14.5	0.0	2.9	62.2	0.7	0.0	0.0	3.6	0.0
28	0.0	0.8	7.0	55.8	0.0	0.0	0.0	3.1	0.0
29	5.8	5.0	1.7	55.4	0.0	0.0	0.0	0.0	0.0
33	0.9	16.2	7.7	47.0	0.0	0.0	0.0	1.7	0.0
34	5.2	0.0	11.0	33.5	0.6	0.0	0.0	0.0	0.0
36	3.5	0.0	12.8	61.7	2.1	0.0	0.0	1.4	0.0
38	5.9	0.0	5.9	47.1	3.3	0.0	0.0	1.3	0.0
39	0.7	0.0	4.6	53.9	2.6	0.0	0.0	0.0	0.0
40	3.8	0.0	16.7	39.4	0.0	0.0	0.0	0.8	0.0
42	0.8	2.5	7.4	39.7	2.5	0.0	0.0	3.3	0.0
43	46.5	0.0	0.0	5.8	1.5	0.0	0.0	4.7	2.3
44	12.5	0.0	0.0	8.7	2.3	0.0	0.0	0.0	0.0
45	27.6	0.0	0.0	7.2	1.9	0.0	0.0	0.5	0.0
46	15.3	0.0	0.0	6.7	2.4	0.0	0.0	0.4	0.4
47	24.9	0.0	0.0	2.7	0.4	0.0	0.0	0.4	0.0
48	56.2	0.6	0.0	12.0	1.7	0.0	0.0	5.3	1.5

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
North Atlantic samples from Wall and others (1977), number of samples = 103									
1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.5	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
12	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	6.1	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
19	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
21	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2
22	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
23	1.8	0.7	1.1	0.0	0.0	0.0	0.0	0.0	4.4
24	3.8	0.0	1.4	0.0	0.0	0.0	0.0	0.0	8.0
25	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	4.6	0.0	0.9	0.0	0.0	0.0	0.0	0.0	8.3
27	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
28	7.8	0.0	0.8	0.0	0.0	0.0	0.0	0.0	14.0
29	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
33	4.3	9.4	0.0	0.0	0.0	0.0	0.0	0.0	5.1
34	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
38	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
39	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	2.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2.3
42	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
43	0.2	0.3	4.9	0.7	0.1	0.0	1.7	0.0	0.0
44	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	2.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.9	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
48	1.2	0.5	3.3	0.8	0.5	0.8	2.4	0.0	0.0

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
North Atlantic samples from Wall and others (1977), number of samples = 103								
1	0.0	0.0	0.8	9.1	3.3	0.0	0.8	19.0
2	0.0	0.0	0.0	20.6	5.2	0.0	0.0	12.9
3	0.0	0.0	0.0	18.3	2.9	1.1	0.0	10.8
4	0.0	0.0	0.0	82.9	5.3	0.0	0.0	0.6
5	0.0	0.0	0.0	39.8	0.0	0.0	0.0	7.1
6	0.0	0.2	1.5	24.0	8.6	0.0	0.0	1.2
7	0.0	0.0	0.0	36.3	4.1	0.0	0.0	0.0
8	0.0	0.0	0.4	29.1	2.0	0.0	0.0	2.0
10	0.0	0.0	0.0	49.7	0.0	0.7	0.0	6.1
11	0.0	0.0	0.1	0.5	1.0	0.1	0.0	29.4
12	0.0	0.0	0.0	20.3	2.8	0.7	0.0	2.8
13	0.0	0.0	0.0	66.4	2.9	0.0	0.0	2.1
14	0.0	0.0	0.8	16.9	2.5	0.0	0.0	4.2
15	0.7	0.0	0.0	34.3	2.1	0.7	0.0	7.9
16	0.0	0.0	0.0	8.8	2.5	0.0	0.0	0.0
17	0.0	0.0	0.0	5.5	2.0	0.0	0.0	0.0
18	0.0	0.0	0.0	7.6	0.8	0.0	0.0	0.8
19	0.0	0.0	0.0	57.0	3.7	0.9	0.0	0.0
21	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.6
22	0.0	0.0	0.0	41.9	0.0	1.9	0.0	1.9
23	1.1	0.0	0.0	20.6	1.1	3.7	0.0	9.9
24	0.0	0.0	0.0	30.0	2.3	0.5	0.5	5.2
25	0.0	0.0	0.0	28.7	0.7	0.0	0.0	0.0
26	0.0	0.0	0.0	10.2	3.7	0.0	0.0	6.5
27	0.7	0.0	0.0	6.5	2.5	0.0	0.0	0.7
28	1.6	0.0	0.0	4.7	3.9	0.0	0.0	0.8
29	12.4	0.0	0.0	7.4	2.5	0.0	0.0	3.3
33	3.4	0.0	0.0	1.7	1.7	0.0	0.0	0.9
34	3.5	0.0	0.0	20.2	4.6	1.2	0.0	16.2
36	0.7	0.0	0.0	5.0	0.7	0.0	0.0	7.1
38	4.6	0.0	0.0	17.6	3.9	0.0	0.0	7.8
39	1.3	0.0	0.0	9.9	13.8	0.0	0.7	6.6
40	7.6	0.0	0.0	18.9	3.8	0.0	0.0	3.0
42	7.4	0.0	0.0	14.9	4.1	0.8	0.0	3.3
43	0.1	0.0	0.2	30.2	0.2	0.0	0.2	0.2
44	0.0	0.4	0.4	68.6	4.9	0.0	0.0	1.9
45	0.0	0.0	0.0	58.5	1.9	0.0	0.0	1.2
46	0.0	0.0	0.0	64.7	3.9	0.0	0.0	3.9
47	0.0	0.0	0.0	65.8	2.2	0.0	0.0	2.2
48	0.0	0.0	0.1	10.0	0.5	0.0	0.0	2.5

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
49	54.0	0.2	0.0	11.5	1.8	0.0	0.0	8.5	2.7
50	41.1	0.0	0.2	6.8	0.2	0.0	0.0	11.7	1.7
51	40.7	0.0	0.0	15.8	1.6	0.0	0.0	0.0	3.2
52	54.1	0.0	0.1	9.2	0.5	0.1	0.0	0.0	0.7
53	36.3	0.0	0.0	11.6	1.5	0.2	0.0	0.3	0.5
54	11.1	0.0	0.0	14.4	1.0	0.0	0.0	0.3	0.3
55	25.6	0.0	0.0	10.3	1.2	0.0	0.0	0.1	0.1
56	27.9	0.0	0.0	6.5	0.0	0.0	0.0	1.3	0.3
57	20.1	0.0	0.8	5.2	1.4	0.0	0.0	10.3	0.3
58	44.7	0.0	0.0	12.6	1.7	0.0	0.0	7.5	3.4
59	42.5	0.0	0.2	7.9	0.0	0.0	0.0	16.7	1.1
60	30.9	0.0	0.0	6.1	1.2	0.0	0.0	11.0	1.2
61	35.5	0.0	0.0	11.5	4.7	0.0	0.0	0.0	2.1
62	44.1	0.0	0.0	10.0	6.3	0.0	0.0	1.1	0.3
63	31.7	0.0	0.0	9.7	1.3	0.0	0.0	10.0	0.3
65	33.9	0.0	0.0	9.7	0.6	0.2	0.0	9.9	1.2
66	38.0	0.0	0.2	4.7	0.4	0.0	0.0	11.6	1.2
68	46.0	0.0	0.0	12.5	1.7	0.0	0.0	1.1	1.1
69	41.6	0.0	0.1	8.7	1.8	0.0	0.0	11.2	1.4
70	24.1	0.0	0.0	7.0	1.9	0.0	0.0	11.4	0.6
71	37.8	0.0	0.3	6.7	2.6	0.0	0.0	10.5	0.5
72	32.1	0.0	0.0	7.6	6.0	0.0	0.4	9.9	0.8
73	0.0	5.2	52.4	18.2	0.0	0.0	0.0	0.0	0.0
74	0.0	0.9	1.8	4.3	2.1	0.0	0.0	0.0	0.0
75	1.7	2.0	6.0	7.4	0.3	0.0	0.0	0.0	0.0
76	6.6	0.0	5.2	6.6	0.9	0.0	0.0	0.0	0.0
77	0.0	0.4	1.1	1.5	0.0	0.0	0.0	0.0	0.0
78	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
79	1.3	1.3	4.6	13.0	1.3	0.0	0.0	0.0	0.0
80	1.5	1.5	11.9	7.4	3.0	0.0	0.0	0.0	0.0
82	12.0	1.9	10.8	39.2	1.3	0.0	0.0	0.0	0.0
83	13.9	3.2	11.4	39.2	1.9	0.0	0.0	0.0	0.0
84	24.6	2.2	8.0	42.0	1.4	0.0	0.0	1.4	0.0
85	56.0	8.4	0.6	28.3	0.0	0.0	0.0	0.0	0.0
86	70.9	4.7	0.0	22.8	0.0	0.0	0.0	0.0	0.0
87	12.6	1.0	1.0	70.9	3.9	0.0	0.0	0.0	0.0
88	20.7	1.2	5.3	42.6	3.0	0.0	0.0	0.6	0.0
89	9.8	0.0	0.8	59.3	1.6	0.0	0.0	0.0	0.0
91	0.0	30.2	16.6	11.5	0.9	0.0	0.0	0.0	0.0
92	8.1	8.1	8.1	62.9	4.0	0.0	0.0	0.0	0.0
102	41.9	0.0	0.0	50.0	2.9	0.0	0.0	0.0	0.0
103	0.0	6.3	0.0	5.4	0.0	0.0	0.0	0.0	0.0
105	0.0	8.9	57.5	8.2	0.0	0.0	0.0	0.7	0.0
106	1.6	54.1	25.4	4.1	0.0	0.0	0.0	0.8	0.0
110	7.5	12.3	13.2	29.2	0.0	0.0	0.0	0.0	0.0

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
49	0.0	0.5	2.3	1.1	1.4	0.5	1.1	0.2	0.0
50	0.0	0.5	9.2	0.5	2.7	0.5	4.4	0.0	0.0
51	4.2	0.0	1.2	0.0	0.0	0.0	0.2	0.0	0.0
52	4.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
53	6.5	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0
54	4.4	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
55	6.9	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
56	4.9	0.3	0.0	0.0	0.0	0.0	0.6	0.0	0.0
57	5.7	0.0	0.3	0.0	0.0	0.0	2.2	0.0	0.0
58	2.3	0.9	2.6	0.4	0.8	0.0	3.8	0.0	0.0
59	4.4	0.0	5.7	1.1	0.2	0.0	5.1	0.0	0.0
60	1.2	0.0	8.1	1.2	0.0	0.4	8.5	0.0	0.0
61	4.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62	8.9	0.6	0.3	0.0	0.3	0.0	1.1	0.0	0.0
63	3.2	0.0	0.6	0.0	1.0	0.3	5.2	0.0	0.0
65	1.9	0.2	4.9	0.0	1.4	0.0	5.3	0.0	0.0
66	0.6	0.2	6.7	0.4	2.0	0.6	7.1	0.0	0.0
68	0.6	0.0	1.7	0.0	0.0	0.6	1.7	0.0	0.0
69	0.6	0.8	1.7	0.2	0.2	0.0	5.1	0.1	0.0
70	0.0	1.3	1.9	0.6	0.6	0.0	5.7	0.0	0.0
71	1.0	0.0	4.6	0.8	1.0	0.0	9.0	0.0	0.0
72	1.6	1.0	7.4	0.6	0.6	0.2	13.8	0.2	0.0
73	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	17.7
74	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.7
75	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.5
76	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.6
77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.1
78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.4
79	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.4
80	3.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	67.4
82	5.7	8.2	0.0	0.0	0.0	0.0	0.0	0.0	20.3
83	2.5	7.6	3.2	0.0	0.0	0.0	0.0	0.0	14.6
84	1.4	8.7	1.4	0.0	0.0	0.0	0.0	0.0	8.7
85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87	3.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88	5.9	0.0	0.6	5.9	0.6	0.6	0.0	2.4	10.1
89	8.1	0.8	0.8	11.4	1.6	0.0	0.8	3.3	0.0
91	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92	2.4	0.0	0.0	0.0	2.4	0.8	0.0	0.0	0.0
102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.0
105	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6
106	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	4.9
110	0.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	19.8

 Table 3 - Percentage values continued

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
49	0.0	0.0	0.0	12.1	0.7	0.0	0.0	1.4
50	0.0	0.0	0.0	20.0	0.2	0.0	0.0	0.2
51	0.0	0.0	0.0	30.1	2.4	0.0	0.0	0.6
52	0.1	0.0	0.0	29.0	1.1	0.0	0.0	0.2
53	0.0	0.0	0.0	40.0	2.3	0.1	0.0	0.2
54	0.3	0.0	0.0	66.4	1.0	0.0	0.0	0.3
55	0.0	0.0	0.0	52.8	1.9	0.1	0.0	0.1
56	0.0	0.0	0.0	55.2	2.9	0.0	0.0	0.0
57	0.0	0.0	0.3	50.3	2.2	0.0	0.0	1.1
58	0.2	0.0	0.0	17.6	0.8	0.0	0.0	0.9
59	0.0	0.0	0.0	13.8	0.4	0.2	0.2	0.6
60	0.0	0.0	0.0	26.4	2.4	0.0	0.0	1.2
61	0.0	0.0	0.0	39.3	2.1	0.0	0.0	0.0
62	0.0	0.0	0.0	26.4	0.6	0.0	0.0	0.0
63	0.0	0.0	0.0	31.4	3.6	0.0	0.0	1.6
65	0.0	0.0	0.0	28.5	1.4	0.0	0.4	0.6
66	0.0	0.0	0.0	24.8	1.2	0.0	0.0	0.4
68	0.6	0.0	0.6	27.8	0.0	0.0	0.6	3.4
69	0.0	0.0	0.4	23.5	1.1	0.0	0.4	1.0
70	0.0	0.0	0.6	41.8	1.3	0.0	0.0	1.3
71	0.0	0.0	0.0	22.6	1.8	0.0	0.0	0.8
72	0.0	0.0	0.4	17.1	0.0	0.0	0.0	0.2
73	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0
74	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
76	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.7	0.0	0.0	2.2	0.0	0.0	0.0	0.0
82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
88	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
91	0.0	0.0	0.0	3.4	21.3	12.3	0.4	3.0
92	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
102	0.0	0.0	0.0	0.0	1.5	0.0	0.0	2.9
103	5.4	0.0	0.0	0.9	0.9	0.0	0.0	26.1
105	0.0	0.0	0.0	0.7	0.7	0.0	0.0	0.0
106	4.1	0.0	0.0	1.6	0.0	1.6	0.0	0.0
110	0.9	0.0	0.0	5.7	7.5	0.9	0.0	0.0

 Table 3 - Percentage values continued

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
111	3.7	11.0	30.3	42.2	4.6	0.0	0.0	0.0	0.0
113	0.0	0.8	15.3	16.8	42.0	0.0	0.0	6.1	0.0
114	1.1	0.0	56.0	7.9	27.4	0.0	0.0	1.9	0.0
115	0.4	0.0	48.3	10.9	31.9	0.0	0.0	1.3	0.0
116	0.0	0.2	49.7	8.4	36.0	0.0	0.0	1.4	0.0
117	0.0	0.0	42.7	8.7	35.0	0.0	0.0	1.0	0.0
118	0.0	0.0	33.6	20.3	19.6	0.0	0.0	2.8	0.0
136	76.8	0.0	0.0	8.6	0.7	0.0	0.7	7.9	3.3
137	64.5	0.0	0.4	10.0	0.4	0.7	2.0	3.3	0.7
138	65.9	0.0	2.4	11.9	1.1	0.0	0.3	2.7	0.0
139	61.8	0.0	1.6	17.9	1.9	0.0	0.2	1.1	1.3
140	39.8	0.0	0.6	9.1	0.0	0.0	0.0	0.0	0.0
152	8.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
153	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
154	2.1	0.0	11.9	17.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	3.2	0.0	0.0	0.0	7.4	0.0
156	12.8	0.0	0.5	19.2	7.4	0.0	0.0	0.5	0.0
157	10.1	0.0	1.0	30.3	33.7	0.0	0.0	0.0	0.0
Other samples from Wall and others (1977), number of samples = 38									
119	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
121	0.0	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
122	0.0	0.0	0.0	32.9	0.4	0.0	0.0	1.3	0.0
123	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
124	25.0	0.0	0.4	9.1	0.0	0.0	0.0	1.7	0.0
125	33.3	0.0	0.0	13.0	0.0	0.0	0.0	2.8	0.0
126	0.2	0.0	0.0	3.8	0.0	0.0	0.0	0.2	0.0
127	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
128	1.4	0.0	0.0	2.1	0.7	0.0	0.0	0.0	0.0
129	1.5	0.0	0.0	3.6	0.0	0.0	0.0	1.5	0.0
130	33.2	0.0	0.0	55.8	2.6	0.0	0.0	0.3	0.0
131	52.5	0.0	0.0	29.7	0.8	0.0	0.0	1.4	0.0
132	60.5	0.3	0.0	23.9	5.0	0.0	0.0	2.1	0.0
133	56.7	0.0	0.0	14.3	10.1	0.0	0.0	7.9	0.0
134	54.1	0.0	0.0	30.2	3.0	0.0	0.0	1.2	0.0
135	71.4	0.0	0.0	11.1	5.6	0.0	0.0	3.2	0.0
141	14.7	0.0	5.3	8.7	0.0	0.0	0.0	48.7	0.0
142	13.2	0.0	1.5	14.1	7.3	0.0	0.0	1.0	0.0
143	7.1	0.0	13.4	44.6	5.7	0.0	0.0	2.4	0.0
144	31.7	0.0	4.2	12.7	9.2	3.5	0.0	7.0	4.9
145	1.3	0.0	5.4	1.3	0.0	0.0	0.0	47.5	0.0
146	9.6	0.0	6.6	21.6	0.0	0.0	0.0	4.2	0.0
148	19.4	0.0	3.8	10.3	3.8	0.0	0.0	4.2	0.0
149	6.7	0.0	8.4	9.8	0.0	0.0	0.0	5.3	0.0

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
111	0.9	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
116	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153	0.0	0.0	1.1	28.4	12.6	18.9	12.6	23.2	0.0
154	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	1.1	0.0	0.0	44.7	10.6	17.0	10.6	5.3	0.0
156	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Other samples from Wall and others (1977), number of samples = 38

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
119	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124	1.3	1.7	15.9	0.0	0.0	0.0	0.0	2.2	3.0
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
126	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.7
129	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	3.7	2.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0
131	3.0	2.8	0.0	0.0	0.0	0.0	1.7	0.0	0.0
132	1.8	1.5	0.0	0.0	0.0	0.0	0.8	0.0	0.0
133	2.8	1.1	0.0	0.0	0.3	0.0	1.7	0.0	0.0
134	5.3	1.2	0.0	0.0	0.0	0.3	0.6	0.0	0.0
135	2.9	2.4	0.0	0.3	0.0	0.0	1.3	0.0	0.0
141	1.3	1.3	2.0	2.0	0.0	1.3	4.0	0.0	0.7
142	5.4	0.0	0.0	42.9	4.4	2.4	3.9	2.0	0.0
143	2.4	3.6	0.0	9.8	3.3	0.0	0.6	0.3	0.6
144	3.5	0.0	0.0	8.5	2.1	4.2	1.4	1.4	3.5
145	0.0	0.0	0.0	14.2	0.0	10.8	0.0	0.0	18.3
146	4.8	1.2	0.0	37.1	5.4	0.0	3.0	0.0	1.2
148	1.9	0.0	0.0	44.5	4.9	1.5	0.0	0.0	0.4
149	1.4	0.0	0.0	54.0	4.6	4.9	1.8	0.0	0.0

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
111	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9
113	0.8	0.0	0.0	11.5	1.5	3.1	0.8	1.5
114	0.0	0.0	0.0	0.8	1.9	1.1	0.4	1.5
115	0.0	0.0	0.0	1.7	0.0	2.5	0.0	2.1
116	0.2	0.0	0.0	1.4	1.5	0.2	0.3	0.9
117	1.0	0.0	0.0	2.9	5.8	1.0	1.0	1.0
118	0.0	0.0	0.0	6.3	9.8	2.8	0.7	4.2
136	0.0	0.0	0.0	1.3	0.0	0.0	0.7	0.0
137	0.0	0.0	0.0	5.8	3.1	0.0	9.1	0.0
138	0.0	0.0	0.0	8.1	3.8	0.0	3.0	0.0
139	0.0	0.0	0.0	1.4	2.4	0.0	8.8	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.6
152	0.0	0.0	0.0	4.8	0.0	0.0	0.0	85.7
153	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154	0.0	0.0	0.0	2.1	1.0	1.0	0.0	63.9
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156	10.8	0.0	0.0	4.4	2.5	3.9	0.0	32.0
157	4.8	1.0	0.0	11.5	1.0	1.0	0.0	5.8
Other samples from Wall and others (1977), number of samples = 38								
119	0.0	0.0	0.0	81.9	0.0	1.4	0.0	11.8
120	0.0	0.0	0.0	76.4	1.4	1.4	0.0	15.3
121	0.0	0.4	0.0	37.4	0.0	0.0	0.0	50.2
122	0.0	0.4	0.0	43.4	0.4	0.0	0.0	20.6
123	0.0	1.9	0.0	73.8	0.0	0.0	0.0	21.9
124	0.0	0.4	0.0	30.2	0.9	0.9	0.0	7.3
125	0.0	0.5	0.0	41.7	0.0	0.5	0.0	7.9
126	0.0	0.0	0.0	52.5	1.3	0.8	0.0	40.7
127	0.0	0.0	0.0	30.3	0.7	0.0	0.0	59.6
128	0.0	0.0	0.0	87.7	0.0	0.0	0.0	6.2
129	0.5	0.0	0.0	77.4	0.0	6.2	0.0	9.2
130	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.8
131	0.0	0.0	0.0	5.4	0.3	0.0	0.0	2.5
132	0.0	0.0	0.0	2.1	0.0	0.0	0.0	2.0
133	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.6
134	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.6
135	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
141	0.7	0.0	0.0	8.0	0.0	0.0	0.0	1.3
142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
143	0.3	0.0	0.0	2.1	0.0	0.0	0.0	3.9
144	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.7
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
146	0.0	0.0	0.0	0.6	0.0	0.0	0.0	4.8
148	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3
149	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
150	17.5	0.0	17.8	41.8	4.4	0.0	0.0	1.4	0.0
151	2.4	1.8	83.9	4.7	2.1	0.0	0.0	0.0	0.0
158	46.1	0.0	2.0	1.3	0.0	0.0	0.0	1.3	0.0
159	7.2	0.0	0.0	27.2	0.0	0.0	0.0	0.0	0.0
160	21.4	0.0	0.0	15.1	0.0	0.0	0.0	5.6	0.0
161	56.7	0.0	0.0	32.5	0.0	0.0	0.0	8.3	0.0
162	61.4	0.0	0.0	25.5	0.3	0.0	0.0	8.7	0.0
163	71.4	0.0	0.0	10.1	0.2	0.0	0.0	12.6	0.0
164	11.4	0.0	0.0	43.1	0.0	0.0	0.0	0.0	0.0
165	46.4	0.0	0.0	42.0	0.0	0.0	0.0	0.0	0.0
166	59.2	0.0	0.0	28.9	0.5	0.0	0.0	0.0	0.0
167	72.1	0.0	0.0	20.7	0.5	0.0	0.0	0.0	0.9
168	80.3	0.0	0.0	10.4	1.3	0.0	0.0	2.5	0.0
North Atlantic samples from Turon (1984), number of samples =45									
SK 01	0.7	0.0	0.0	0.0	0.0	0.0	2.2	2.9	0.0
SK 04 bis	5.9	0.0	1.7	0.0	0.0	0.0	8.5	0.0	0.0
SK 05	4.3	0.0	0.0	1.1	0.0	0.0	8.7	1.1	0.0
SK 06	0.0	0.0	25.0	6.3	0.0	0.0	43.8	0.0	0.0
SK 07	1.0	0.0	3.1	1.0	0.0	0.0	11.5	0.0	0.0
SK 08	1.0	0.0	2.9	0.0	0.0	0.0	24.3	0.0	0.0
SK 09	1.8	0.0	0.0	0.0	0.0	0.0	8.8	5.8	0.0
SK 10	1.1	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0
C 6970	10.7	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.0
C 6964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 6950	2.5	0.0	0.0	0.0	1.3	0.0	7.6	0.0	0.0
C 6904	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR 72103	1.6	0.0	0.0	0.0	0.0	0.0	0.5	2.1	0.0
C 72104	3.9	0.0	0.0	0.0	0.0	0.0	5.4	0.5	0.0
KR 73102	57.3	0.0	0.0	0.5	0.0	0.9	26.1	0.5	1.8
KR 73104	15.2	0.0	0.0	0.4	0.0	0.0	52.2	0.7	0.4
KR 73105	13.7	0.0	0.0	0.0	0.0	0.0	31.9	2.4	0.8
KR 73110	51.1	0.0	0.0	0.4	0.2	0.2	23.5	9.2	4.8
KR 73111	2.0	0.0	0.5	0.0	0.5	0.0	6.4	5.4	0.5
KR 73112	4.0	0.0	0.0	0.4	0.0	0.0	4.9	2.7	1.3
C 72101	89.7	0.0	0.1	0.4	0.0	0.0	2.1	1.9	0.8
C 73103	44.4	0.0	0.6	0.0	0.0	0.0	9.9	1.2	3.1
C 73139B	46.1	0.0	0.0	1.0	0.0	0.0	32.5	0.5	0.5
C 73128	67.0	0.0	0.0	1.4	0.0	1.1	8.9	2.4	2.4
Orgon KS 09	86.2	0.0	0.0	2.1	0.0	0.0	1.4	3.0	3.0
KR 7703	9.5	0.0	0.0	1.6	0.0	0.0	22.1	6.8	5.3
KR 7704	16.8	0.0	0.0	3.9	0.0	0.0	9.1	7.3	3.4
KR 7706	7.4	0.0	0.0	0.6	0.0	0.0	37.5	4.5	1.7
KR 7707	70.9	0.0	0.0	0.0	0.0	0.0	3.8	5.1	0.0
KR 7708	25.5	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
150	1.6	3.0	0.0	7.1	0.5	0.5	0.0	0.3	1.9
151	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158	0.0	43.4	0.0	0.7	0.3	0.3	0.0	0.0	0.3
159	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
162	0.7	0.3	1.3	0.0	0.0	0.0	0.3	0.0	0.0
163	0.0	0.1	0.1	0.4	0.6	0.0	0.1	0.0	0.0
164	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.8	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166	0.3	5.8	0.0	0.0	0.0	0.0	0.2	0.0	0.0
167	0.0	4.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0
168	2.5	1.3	0.1	0.0	0.0	0.1	0.3	0.0	0.0
North Atlantic samples from Turon (1984), number of samples =45									
SK 01	6.5	0.0	0.0	80.4	2.2	0.0	2.9	0.7	0.0
SK 04 bis	13.6	0.0	0.0	60.2	0.8	0.8	7.6	0.0	0.0
SK 05	12.0	0.0	0.0	48.9	4.3	0.0	7.6	0.0	1.1
SK 06	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0
SK 07	5.2	0.0	0.0	63.5	2.1	0.0	2.1	1.0	0.0
SK 08	3.9	0.0	0.0	58.3	3.9	0.0	2.9	1.9	0.0
SK 09	12.3	0.0	0.0	59.6	2.9	0.0	4.1	0.6	0.0
SK 10	16.8	0.0	0.0	62.2	4.3	0.0	3.2	1.1	0.0
C 6970	9.0	0.0	0.0	56.6	1.6	0.8	4.1	0.0	0.0
C 6964	0.0	0.0	0.0	70.0	5.0	0.0	20.0	0.0	0.0
C 6950	8.9	0.0	1.3	49.4	1.3	1.3	13.9	0.0	0.0
C 6904	10.0	0.0	0.0	70.0	5.0	0.0	10.0	0.0	0.0
KR 72103	21.4	0.0	0.0	64.1	3.6	0.0	5.7	0.0	0.0
C 72104	17.2	0.0	0.0	52.7	6.9	0.0	5.9	0.5	0.0
KR 73102	0.9	0.0	0.0	0.5	0.5	0.0	1.4	0.0	0.0
KR 73104	0.0	0.0	0.0	0.4	0.4	0.0	5.4	0.0	0.0
KR 73105	0.0	0.0	0.0	0.0	0.8	0.0	5.6	0.0	0.0
KR 73110	1.9	0.0	0.0	0.4	0.4	0.0	2.5	0.0	0.0
KR 73111	38.1	0.0	0.0	17.3	8.9	0.0	6.9	2.0	0.0
KR 73112	39.4	0.0	0.0	22.1	8.4	0.0	8.4	0.4	0.0
C 72101	0.5	0.0	0.0	0.2	0.0	0.1	0.4	0.0	0.0
C 73103	0.0	0.0	0.0	1.9	0.6	0.0	3.1	0.0	0.0
C 73139B	1.5	0.0	0.0	1.5	1.0	0.0	11.2	0.0	0.0
C 73128	0.3	0.0	0.0	0.0	0.0	0.0	2.2	0.3	0.0
Orgon KS 09	1.2	0.0	0.0	0.0	0.2	0.0	1.7	0.0	0.0
KR 7703	0.5	0.0	0.0	3.2	6.8	0.0	28.9	0.5	0.0
KR 7704	0.0	0.0	0.0	0.0	0.9	0.0	30.6	0.0	0.0
KR 7706	0.0	0.0	0.0	0.6	2.3	0.0	29.0	0.0	0.0
KR 7707	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
KR 7708	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
150	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.1
151	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.3
158	0.0	1.3	0.0	0.0	0.3	0.0	0.0	2.6
159	0.0	0.0	0.0	27.2	0.5	1.5	0.0	36.4
160	0.0	0.0	0.0	35.7	0.8	3.2	0.0	18.3
161	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1.1
162	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.7
163	0.0	0.0	0.0	3.3	0.0	0.0	0.2	1.0
164	0.0	0.0	0.0	0.0	0.0	2.5	0.0	43.1
165	0.0	0.0	0.0	3.2	0.5	0.5	0.5	3.2
166	0.0	0.0	0.0	4.1	0.2	0.2	0.2	0.5
167	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0
168	0.0	0.0	0.0	1.2	0.0	0.0	0.1	0.0
North Atlantic samples from Turon (1984), number of samples =45								
SK 01	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0
SK 04 bis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
SK 05	0.0	1.1	1.1	0.0	0.0	0.0	0.0	8.7
SK 06	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0
SK 07	0.0	1.0	0.0	0.0	0.0	0.0	1.0	7.3
SK 08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
SK 09	0.0	1.2	2.3	0.0	0.0	0.0	0.0	0.6
SK 10	0.0	0.0	3.2	0.0	0.0	0.0	0.0	1.1
C 6970	0.0	5.7	1.6	0.0	0.8	0.0	0.0	7.4
C 6964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
C 6950	0.0	5.1	2.5	0.0	0.0	1.3	0.0	3.8
C 6904	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR 72103	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
C 72104	0.0	0.0	3.4	0.0	0.0	0.0	0.5	3.0
KR 73102	0.0	0.9	4.6	0.9	0.0	1.4	0.9	0.9
KR 73104	0.0	4.3	12.7	3.3	0.7	2.5	0.7	0.7
KR 73105	0.0	5.2	35.9	2.0	0.0	0.4	1.2	0.0
KR 73110	0.0	0.4	1.5	0.0	0.0	0.4	0.0	3.1
KR 73111	0.0	1.0	3.0	0.0	0.0	0.0	0.0	7.4
KR 73112	0.0	0.4	0.4	0.4	0.0	0.4	0.0	6.2
C 72101	0.0	0.4	1.1	0.0	0.0	0.1	1.8	0.5
C 73103	0.0	3.1	27.2	0.0	0.0	1.9	1.2	1.9
C 73139B	0.0	0.5	1.0	1.0	0.0	0.0	0.5	1.5
C 73128	0.0	1.4	6.2	0.5	0.5	2.2	1.9	1.4
Orgon KS 09	0.0	0.0	0.2	0.3	0.0	0.0	0.3	0.3
KR 7703	0.0	2.1	5.3	2.6	0.0	0.5	1.6	2.6
KR 7704	0.0	3.4	20.3	0.0	0.0	0.0	2.2	2.2
KR 7706	0.0	2.3	10.8	0.0	0.0	0.6	2.8	0.0
KR 7707	0.0	5.1	12.7	0.0	0.0	0.0	0.0	0.0
KR 7708	0.0	27.3	34.5	0.0	0.0	0.0	0.0	1.8

Snum	O.cen	O.isr	L.mach	S.bull	S.ram	A.cho	B.tep	N.laby	S.elon
KR 7712	15.6	0.0	0.0	1.0	0.0	0.0	30.4	1.7	2.9
KR 7713	4.5	0.0	0.0	0.6	0.0	0.0	53.7	0.0	1.7
KR 7714	11.8	0.0	0.0	0.6	0.0	1.9	24.2	5.6	2.5
KR 7715	6.9	0.0	0.0	0.0	0.0	0.0	9.2	20.7	9.2
KP 7902	18.2	0.0	0.0	0.0	0.0	0.0	13.0	15.1	3.1
KP 7904	10.6	0.0	0.0	0.0	0.0	0.6	18.8	44.4	0.6
KP 7908	3.5	0.0	0.0	0.0	0.0	0.0	49.1	5.3	0.0
KP 7909	17.6	0.0	1.4	0.0	0.0	0.0	6.8	47.3	2.7
KP 7910	6.9	0.0	0.0	0.0	0.0	0.0	17.2	13.8	0.0
KP 7912	26.6	0.0	0.0	0.0	0.0	0.0	8.3	30.3	0.9
KR 7702	2.7	0.0	0.0	0.5	0.5	0.5	8.2	37.7	3.3
HS 02	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
INMD 69	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP 7469	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
C 7928	4.4	0.0	0.0	0.0	0.0	0.0	7.6	2.1	0.9

 Table 3 - Percentage values continued

Snum	S.mir	S.scab	T.pell	I.acul	I.para	I.pat	I.sph	I.str	P.zoh
KR 7712	0.0	0.0	0.0	0.3	1.2	0.0	31.3	0.0	0.0
KR 7713	0.0	0.0	0.0	0.6	0.6	0.6	20.9	0.0	0.0
KR 7714	0.0	0.0	0.0	0.0	0.6	0.0	9.3	0.0	0.0
KR 7715	0.0	0.0	0.0	0.0	1.1	0.0	16.1	0.0	0.0
KP 7902	0.5	0.0	0.0	3.1	6.8	0.0	21.9	0.0	0.0
KP 7904	0.0	0.0	0.0	1.3	2.5	0.0	7.5	0.0	0.0
KP 7908	0.0	0.0	0.0	0.0	3.5	0.0	36.8	0.0	0.0
KP 7909	0.0	0.0	0.0	5.4	2.7	0.0	12.2	0.0	0.0
KP 7910	0.0	0.0	0.0	3.4	3.4	3.4	51.7	0.0	0.0
KP 7912	0.0	0.0	0.0	4.6	1.8	0.0	25.7	1.8	0.0
KR 7702	0.5	0.0	0.0	3.8	3.8	1.6	33.9	0.5	0.0
HS 02	11.4	0.0	0.0	46.6	3.4	29.5	4.5	2.3	0.0
INMD 69	0.0	0.0	0.0	44.1	9.7	16.1	14.0	16.1	0.0
KP 7469	80.5	0.0	0.0	3.9	1.6	0.3	4.9	1.6	0.0
C 7928	72.9	0.0	0.0	5.3	1.2	0.3	3.5	0.3	0.0

Snum	T.van	B.cari	B.simp	P.17	M.quan	Q.con	T.capi	other
KR 7712	0.0	2.6	10.9	0.0	0.0	0.3	1.7	0.0
KR 7713	0.0	1.7	13.6	0.6	0.0	0.0	0.6	0.6
KR 7714	0.0	5.6	32.9	1.2	1.2	0.0	1.9	0.6
KR 7715	0.0	3.4	23.0	5.7	0.0	1.1	3.4	0.0
KP 7902	0.0	0.5	15.1	0.0	0.0	0.0	0.0	2.6
KP 7904	0.0	1.9	11.3	0.0	0.0	0.0	0.6	0.0
KP 7908	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
KP 7909	0.0	0.0	2.7	0.0	0.0	0.0	1.4	0.0
KP 7910	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP 7912	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR 7702	0.0	0.0	1.1	0.0	0.0	0.0	0.5	0.5
HS 02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
INMD 69	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP 7469	0.0	1.0	1.0	0.3	0.0	0.0	0.3	3.6
C 7928	0.0	0.6	0.6	0.3	0.0	0.0	0.0	0.0

 Table 3 - Percentage values continued