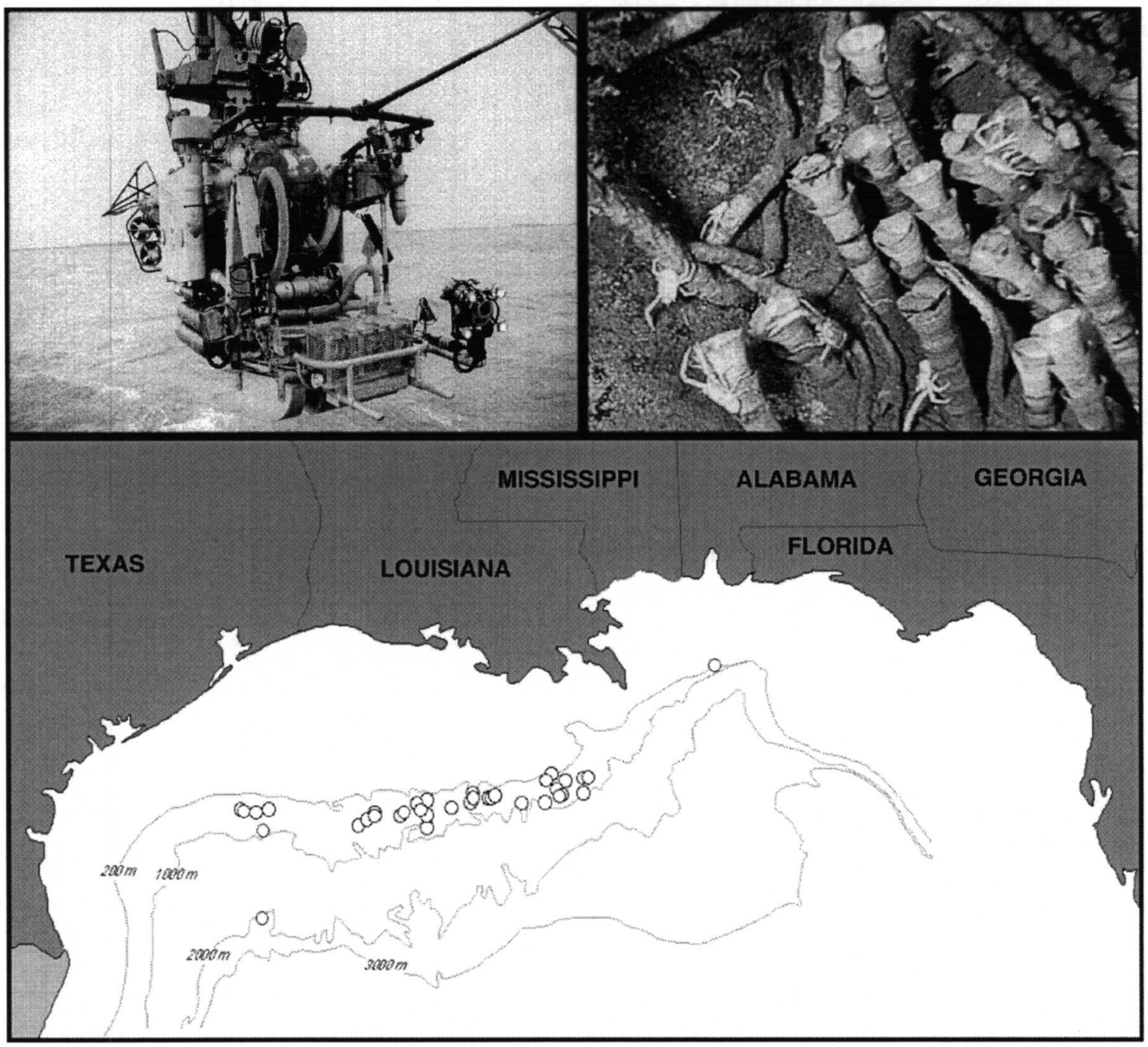
OCS Study
MMS 95-0023

Northern Gulf of Mexico

Chemosynthetic Ecosystems Study

Final Report

Volume III: Appendices



MMS U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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Chemosynthetic Ecosystems Study

Final Report

Volume III: Appendices

Editors

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and
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COVER PHOTOGRAPH

The foreground photograph shows the submersible *Johnson Sea-Link I* preparing for one of its many dives to study chemosynthetic ecosystems. The map depicts the locations of known chemosynthetic ecosystems in the northern Gulf of Mexico.

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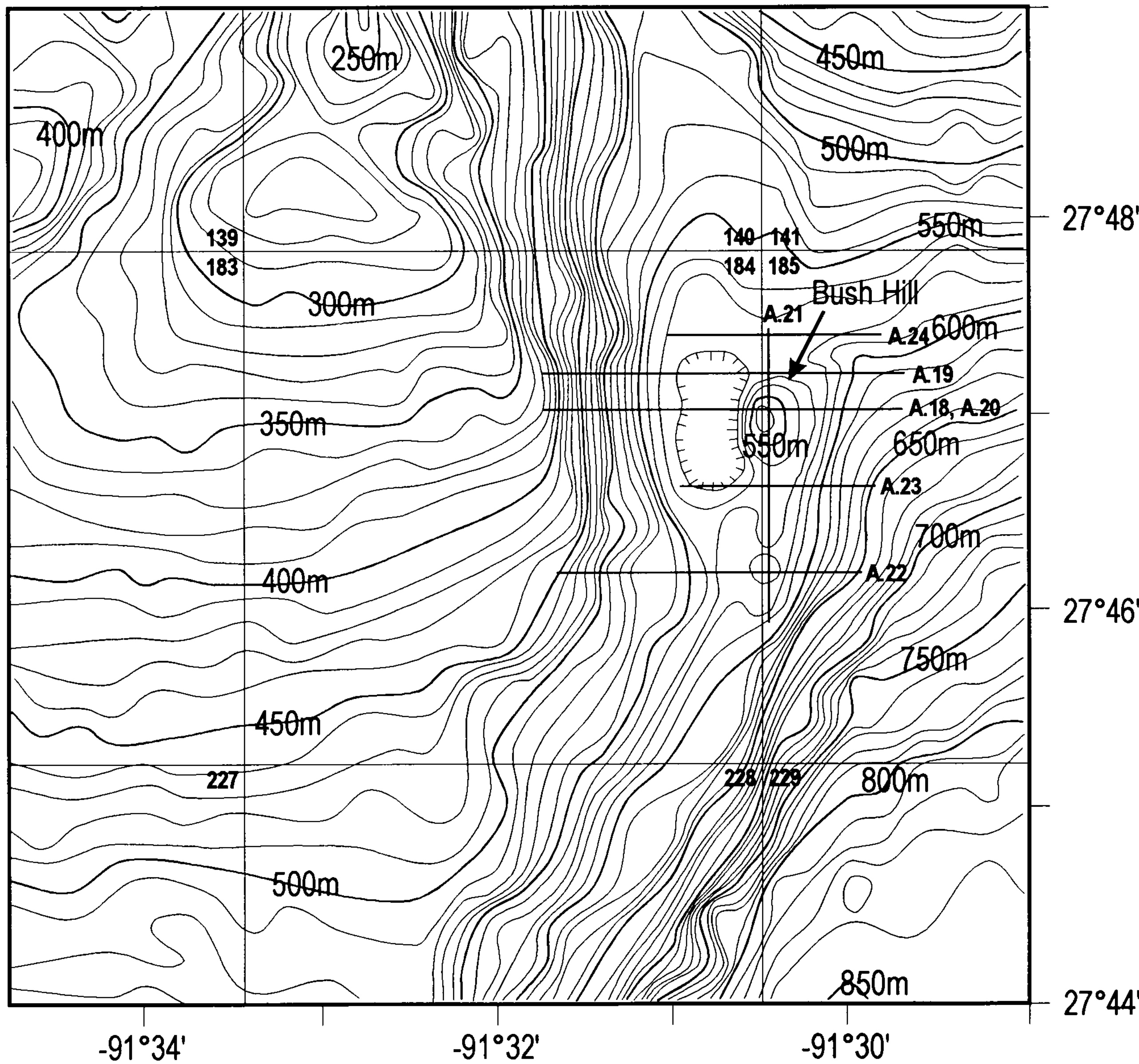

Figure A.1 Detailed multibeam bathymetry (10 m contour intervals) of the GC 184/185 area with Lease Block boundaries (Digital data provided by NOAA). Block numbers are shown in the corners of each block. Seismic line locations (Figures A.18, A.19, A.20, A.21, A.22, A.23 and A.24) are identified by figure number.

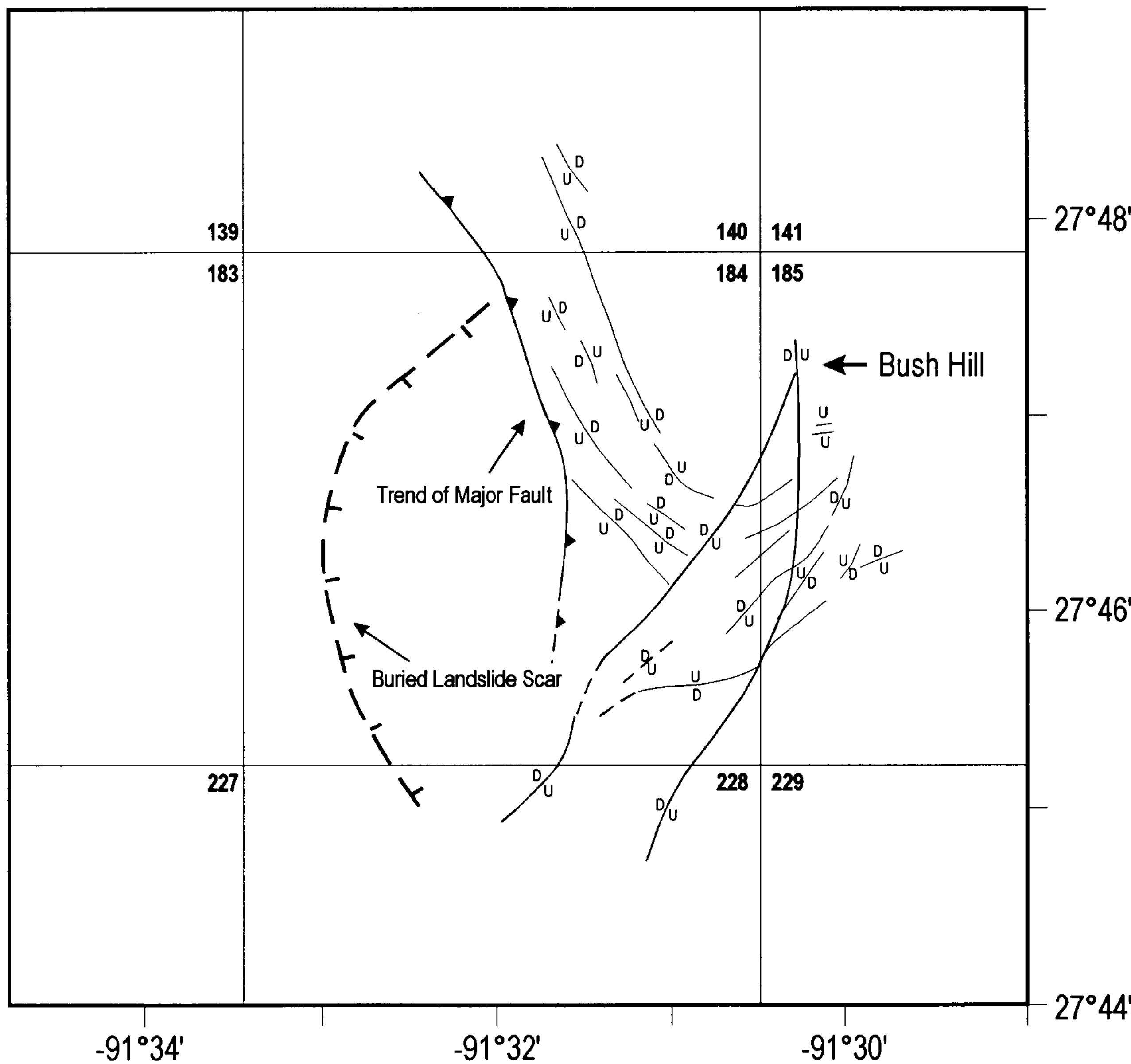

Figure A.2 Major geological structures of the GC 184/185 area with Lease Block boundaries (modified from Neurauter and Bryant, 1990). Block numbers are shown in the corners of each block.

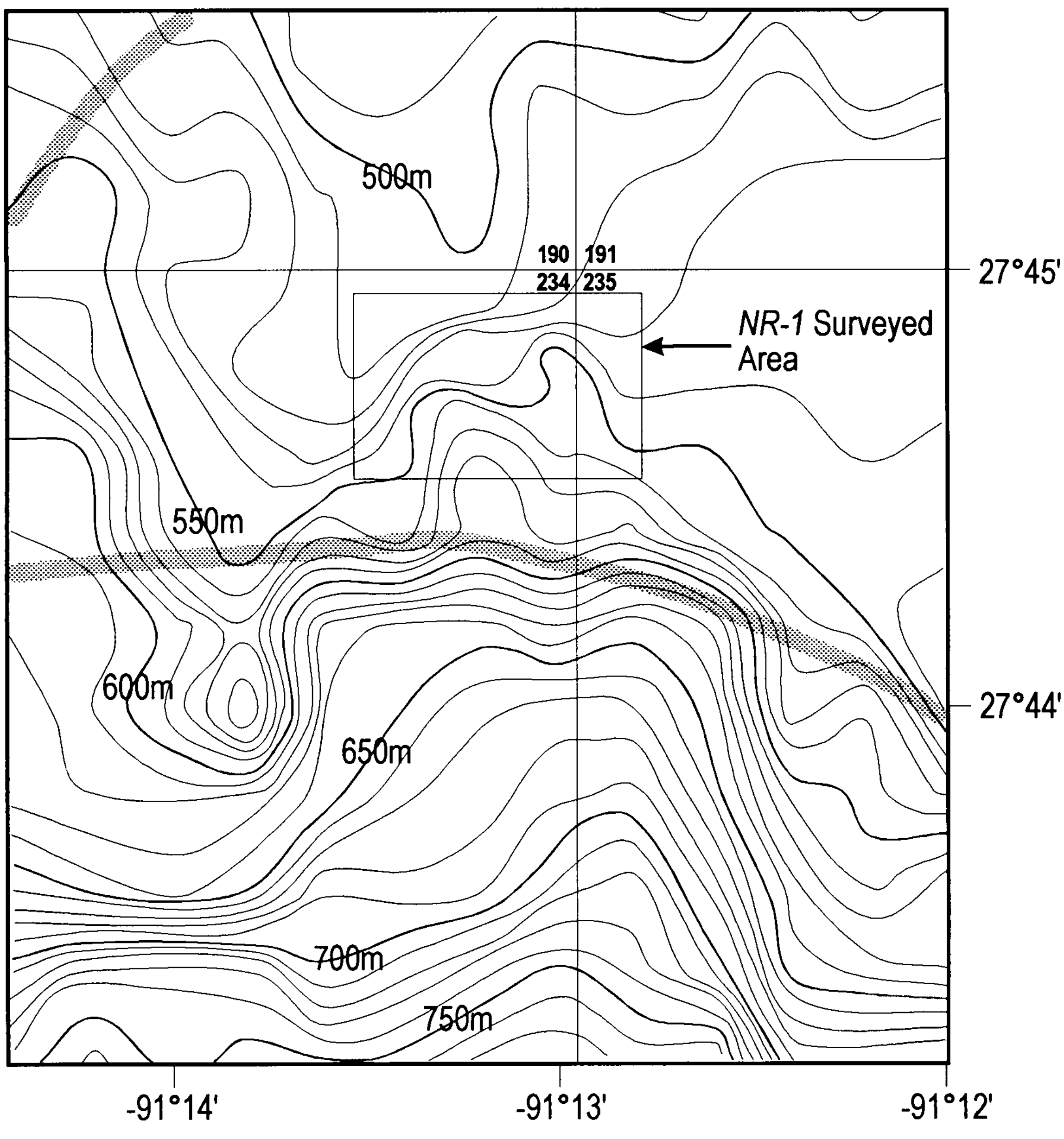

Figure A.3 Detailed multibeam bathymetry (10 m contour intervals) of the GC 234 area with Lease Block boundaries (Digital data provided by NOAA). Block numbers are shown in the corners of each block. Shaded lines represent buried salt diapir crests interpreted by Behrens (1988).

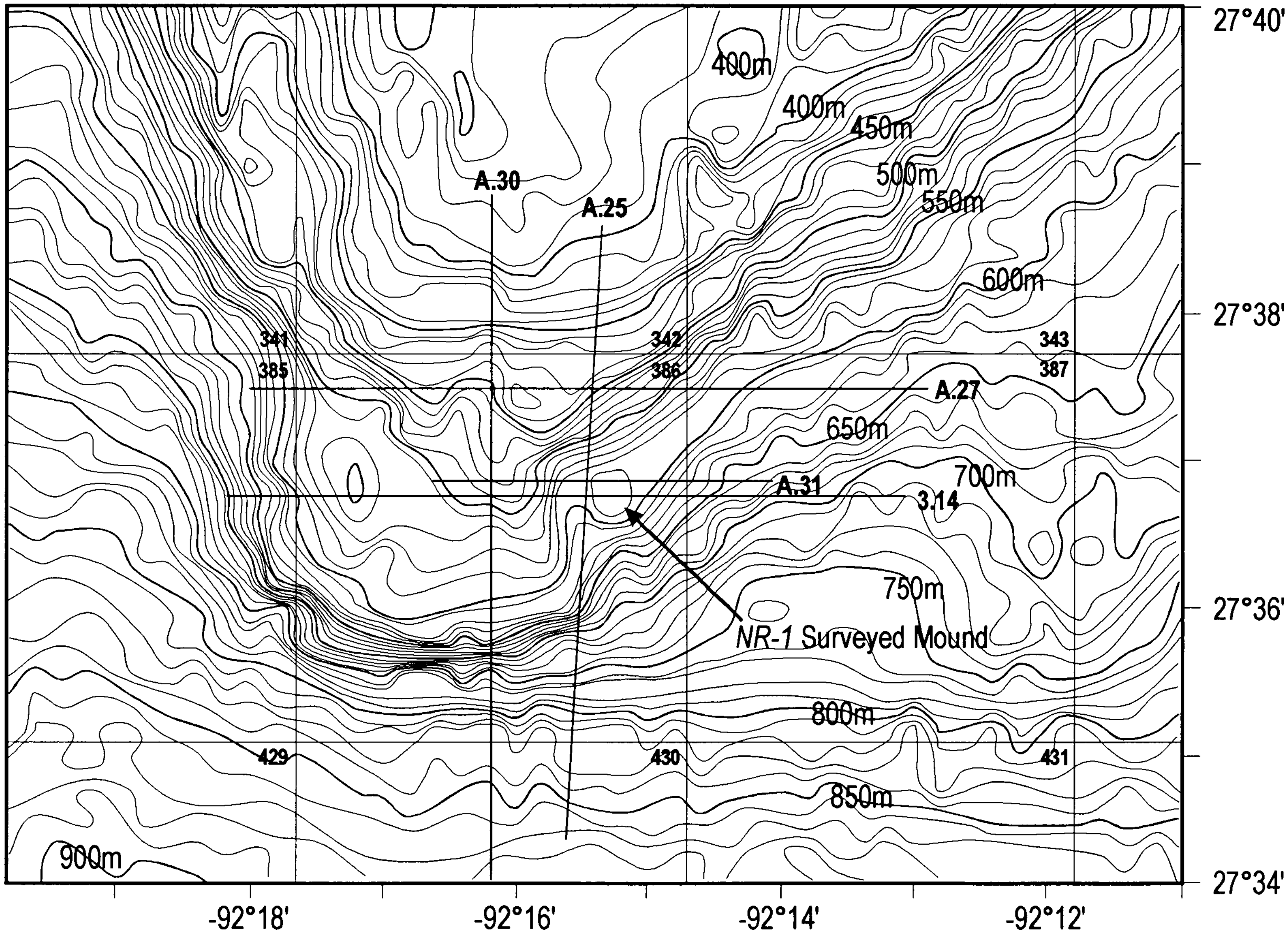

Figure A.4 Detailed multibeam bathymetry (10 m contour intervals) of the GB 386 area with Lease Block boundaries (Digital data provided by NOAA). Block numbers are shown in the corners of each block. Seismic line locations (Figures 3.14, A.25, A.27, A.30 and A.31) are identified by figure number.

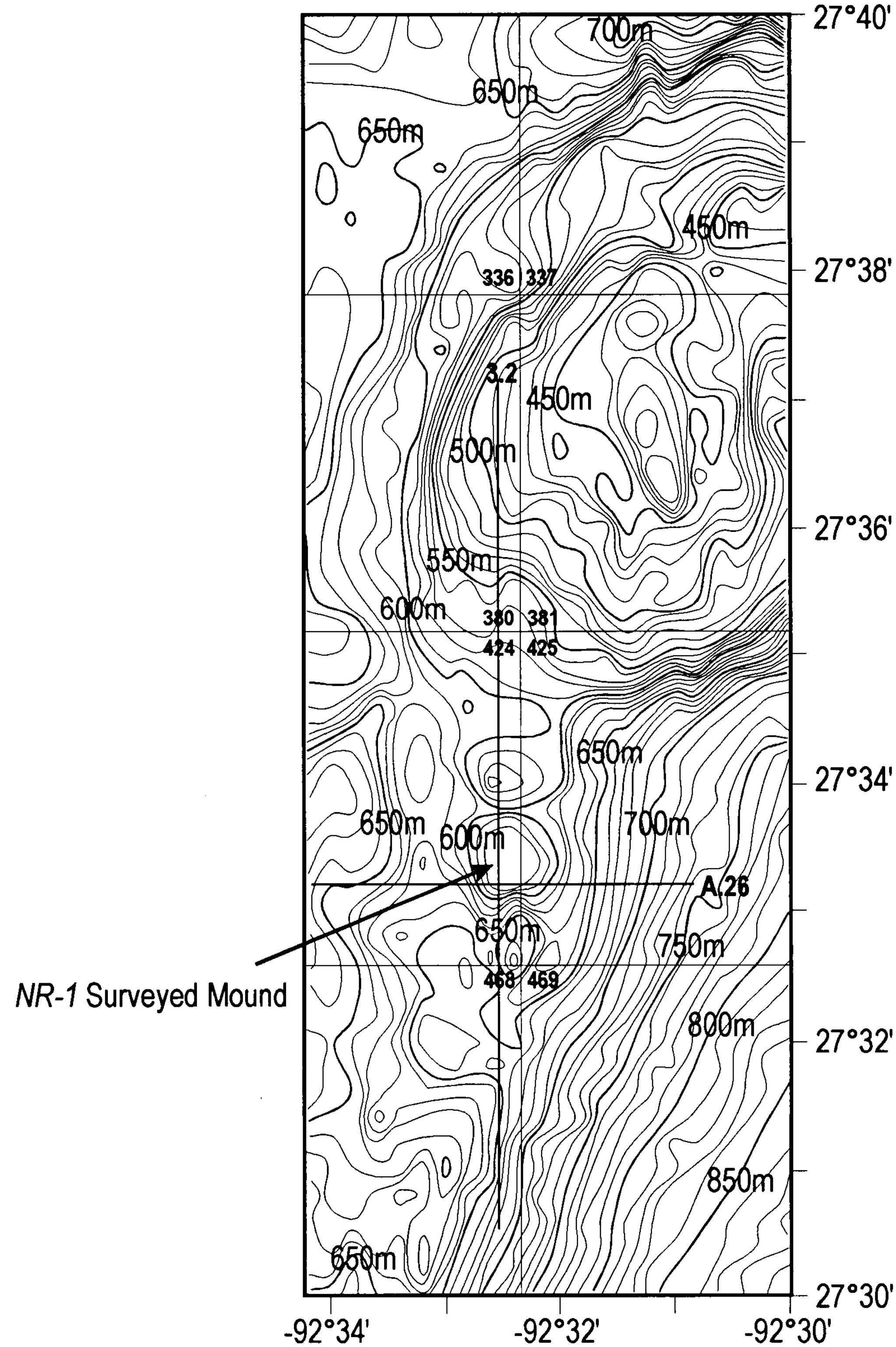

Figure A.5 Detailed multibeam bathymetry (10 m contour intervals) of the GB 425 area with Lease Block boundaries (Digital data provided by NOAA). Block numbers are shown in the corners of each block. Seismic line locations (Figures A.26 and 3.2) are identified by figure number.

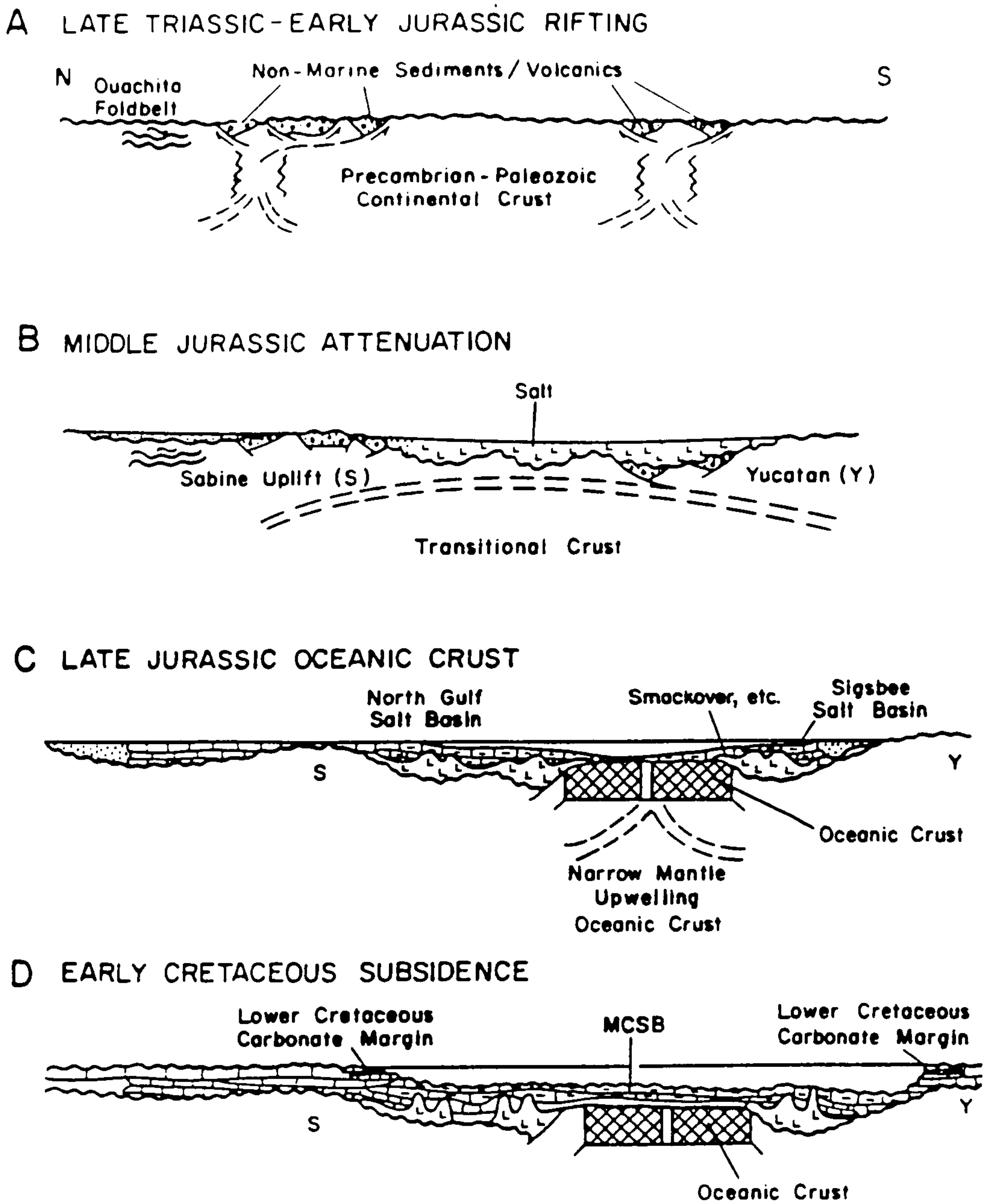

Figure A.6 Schematic diagram illustrating the early (pre-middle Cretaceous) evolution of the Gulf of Mexico. (From Simmons, 1992; Modified from Buffler and Sawyer, 1986)

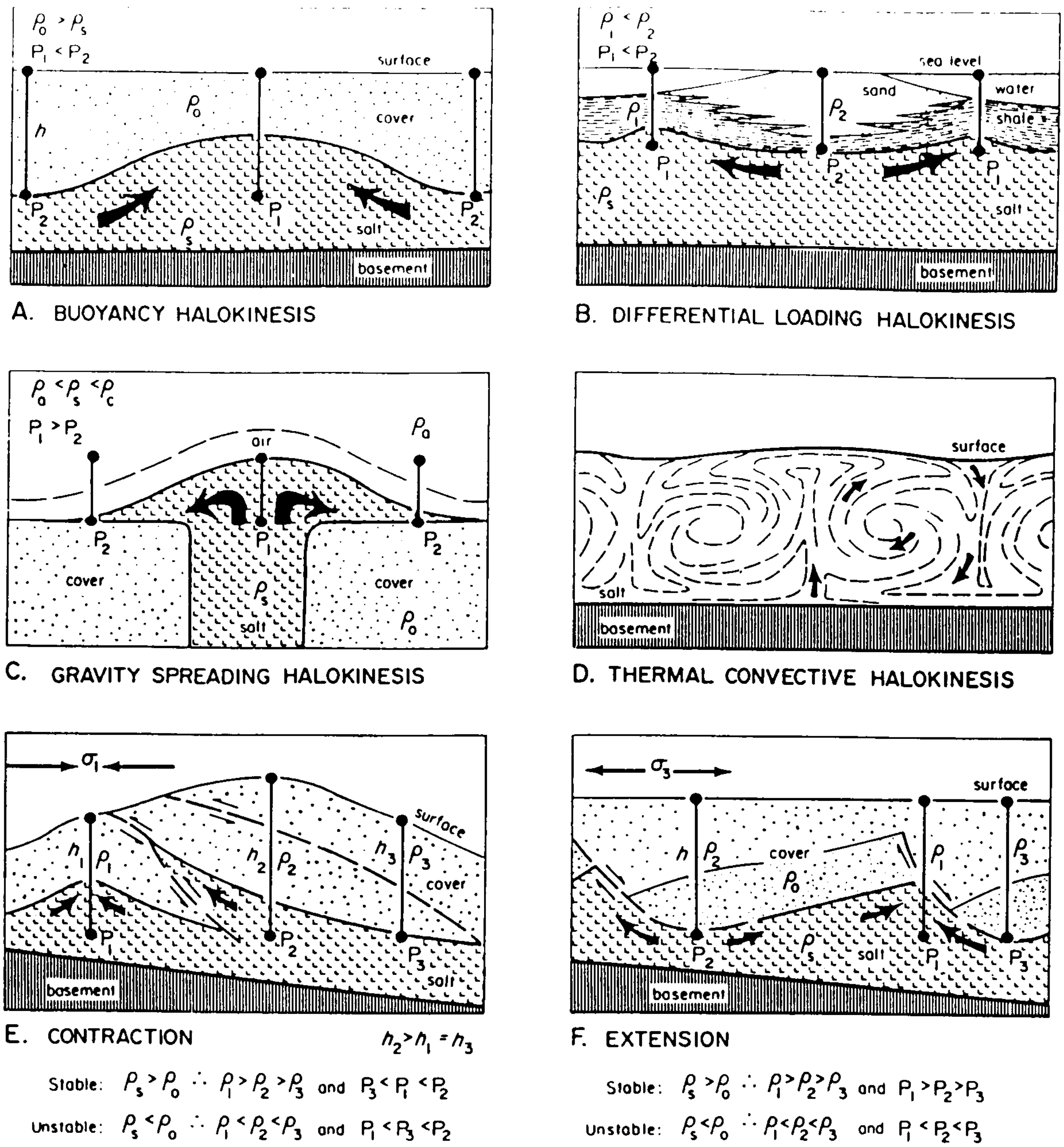

Figure A.7 Six principal mechanisms which cause salt tectonics. All types can combine. P refers to a point or to the lithostatic pressure at that point, based on thickness and density of the overburden; ρ refers to the mean bulk density of a unit where the symbol is isolated or to the mean bulk density of a complete crustal section where the symbol is adjacent to a vertical line defining the section. (From Jackson and Talbot, 1986)

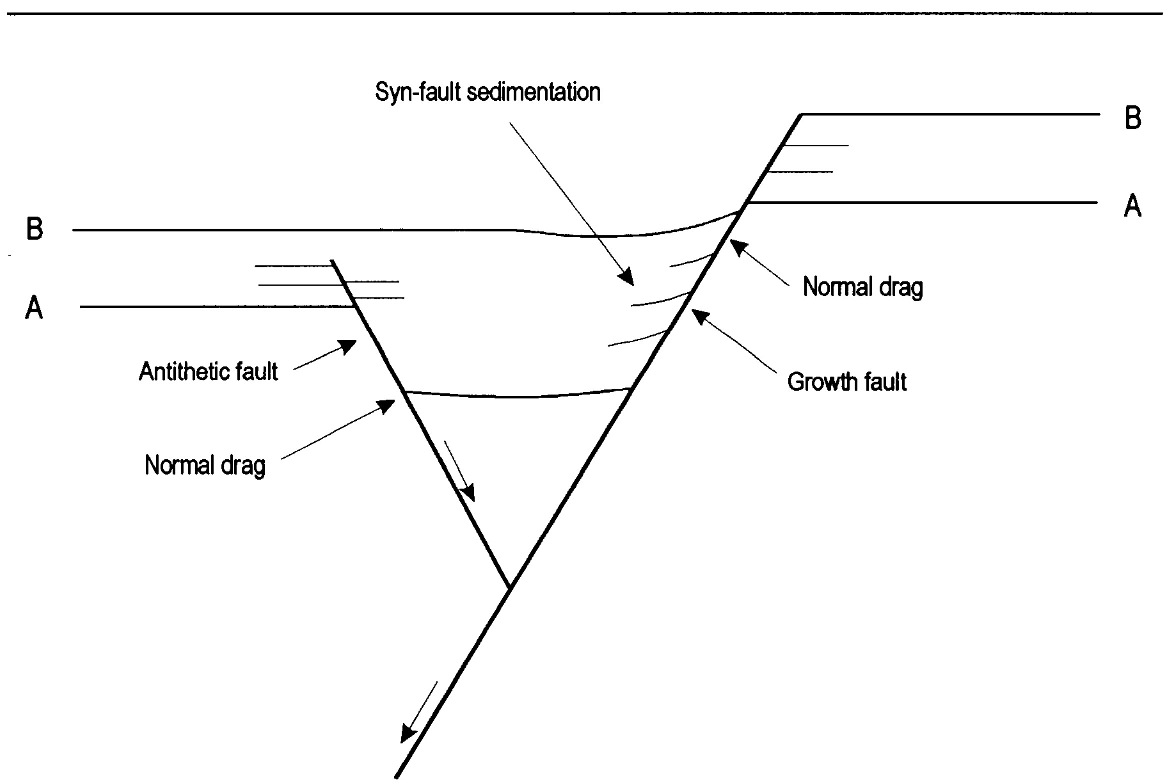

Figure A.8 Schematic diagram illustrating growth fault and antithetic fault. (From Badley, 1985)

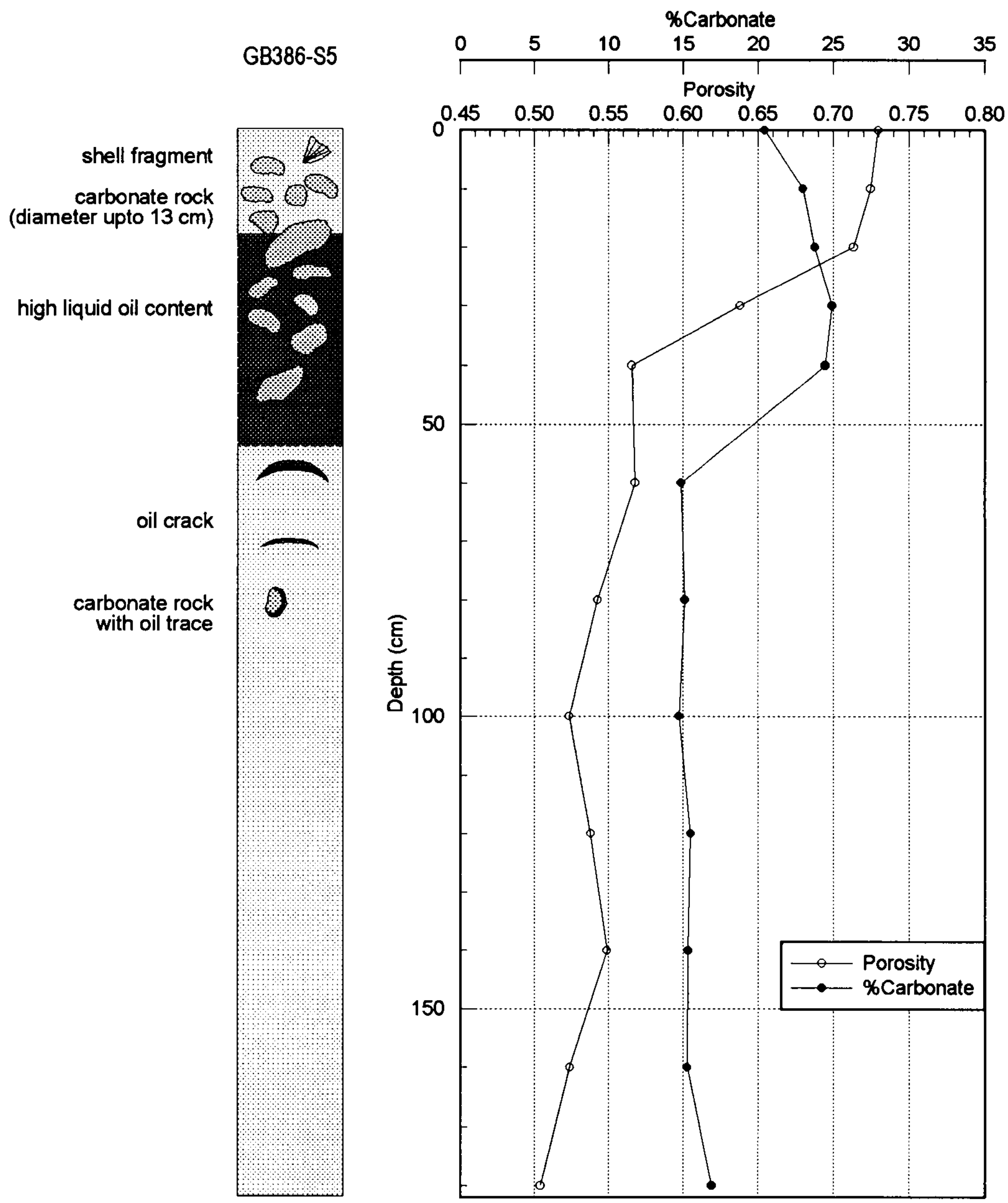

Figure A.9 Description of piston core GB 386-S5; from an Echo Type I zone in GB 386. At right are trends in carbonate percentage and porosity. Core location is shown in Figure 3.8.

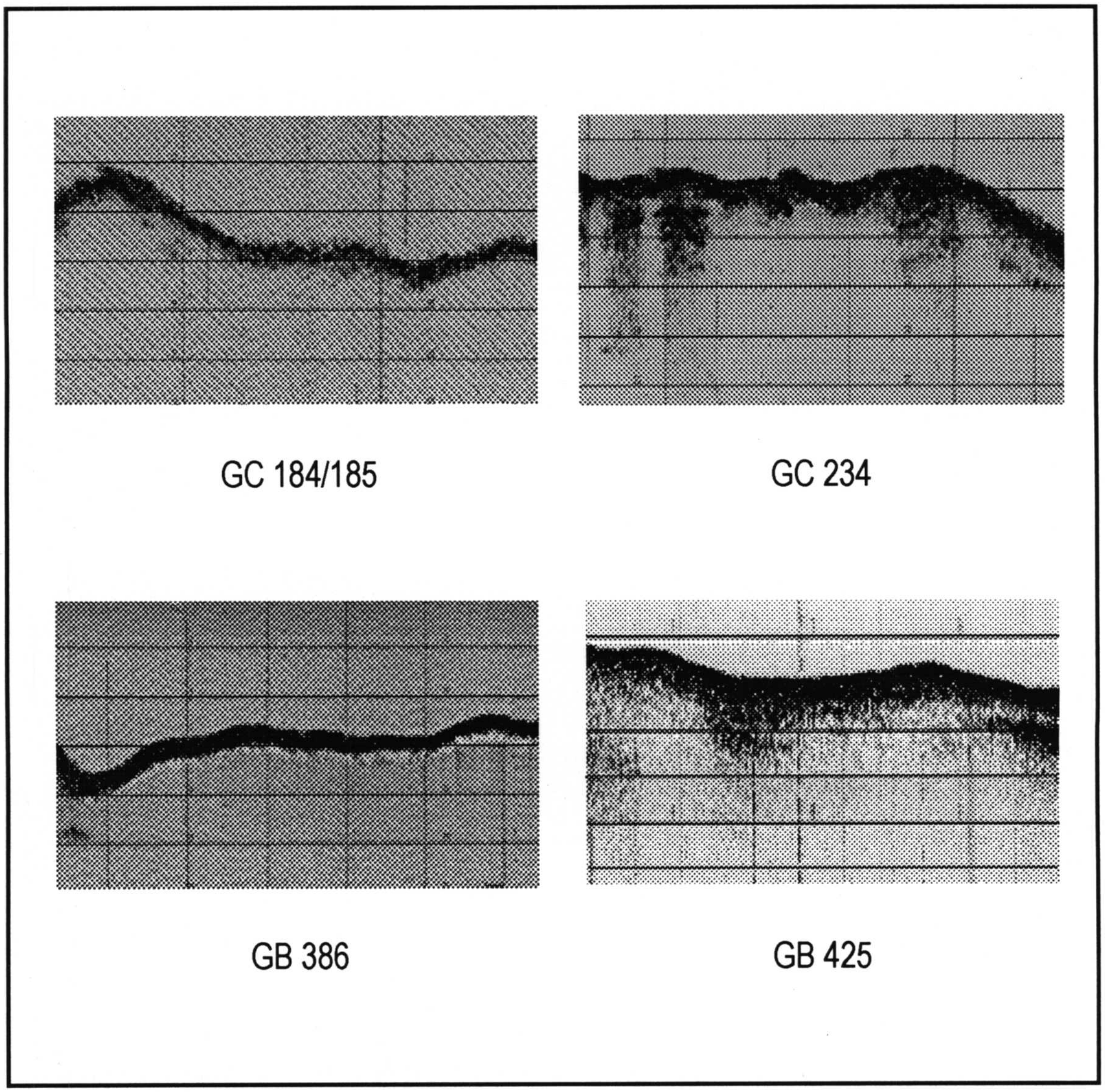

Figure A.10 Comparison of Echo Type I from each study site.

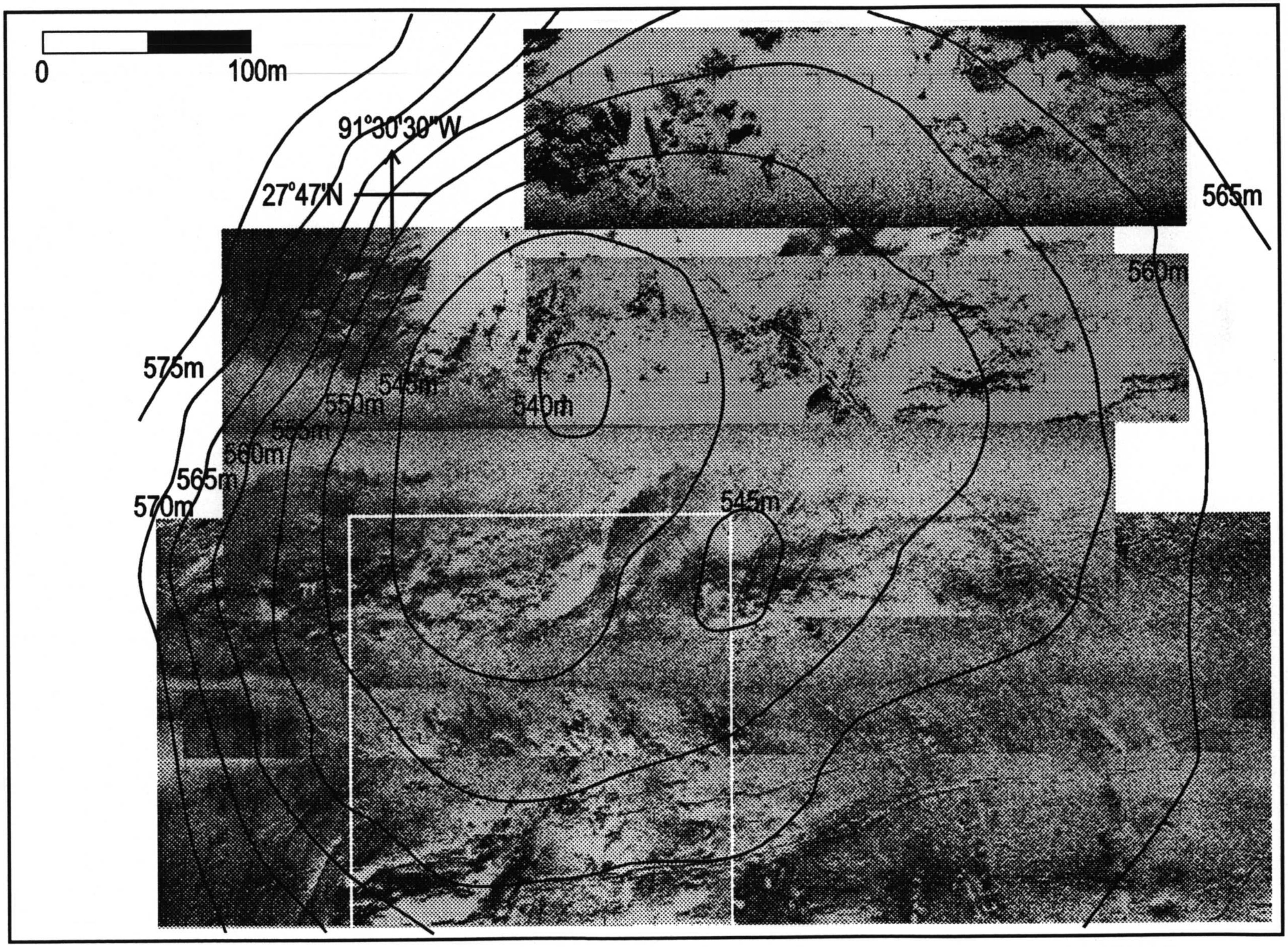

Figure A.11 Side-scan sonar mosaic of the Bush Hill mound. Dark pixels are strong acoustic returns, and bright pixels are weak returns or acoustic shadows. Outlined area is magnified in Figure A.13. Bathymetry contours are shown at 5 m intervals.

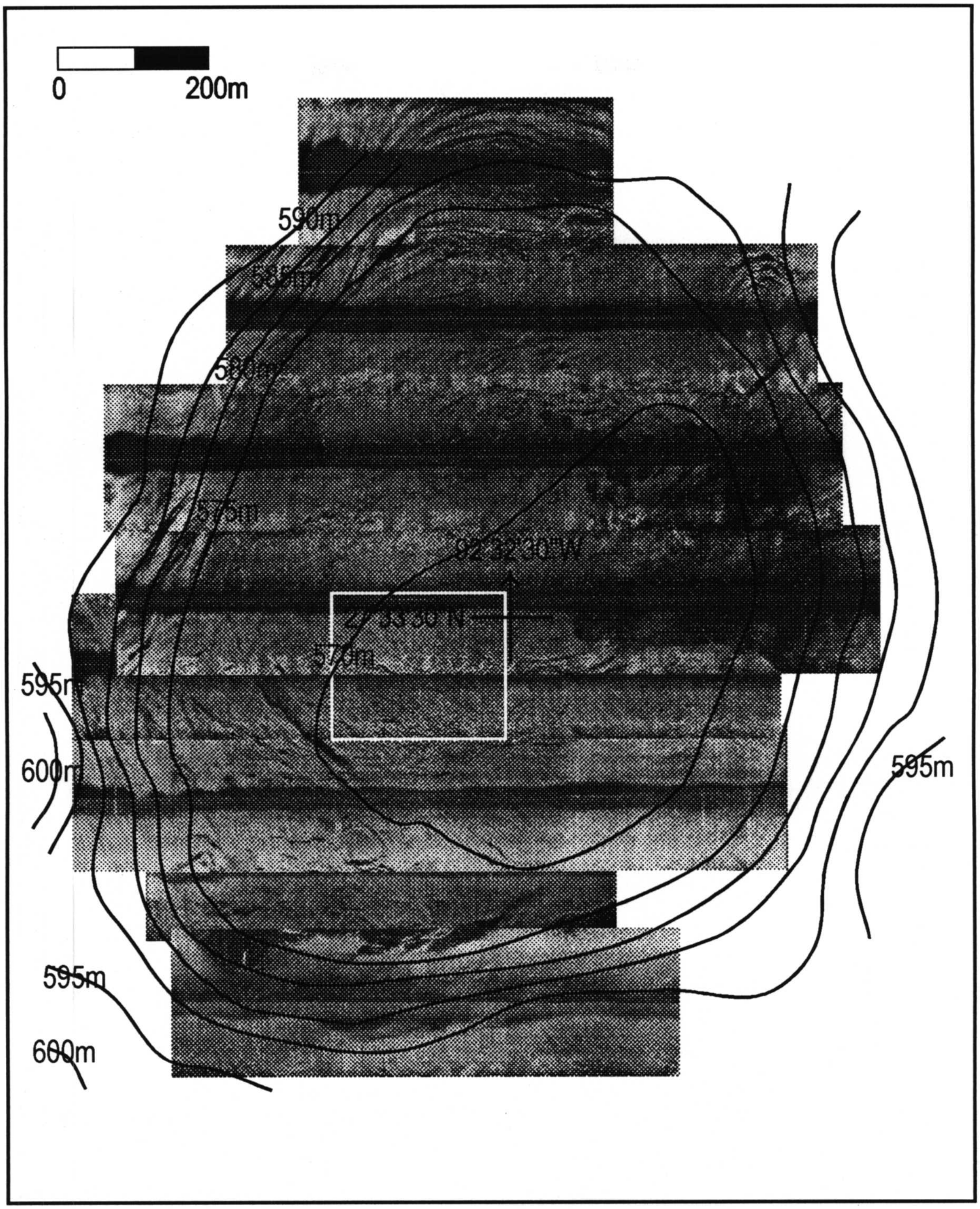

Figure A.12 Side-scan sonar mosaic of the *NR-1* surveyed mound at the GB 425 site. Dark pixels are strong acoustic returns, and brignt pixels are weak returns or acoustic shadows. Outlined area is magnified in Figure A.15. Bathymetry contours are shown at 5 m intervals.

Fig A.13 Side-scan sonar record of a portion of the Bush Hill mound. Carbonate outcrops, drag marks, and tube worm bushes are shown. Location is shown in Figure A.11.

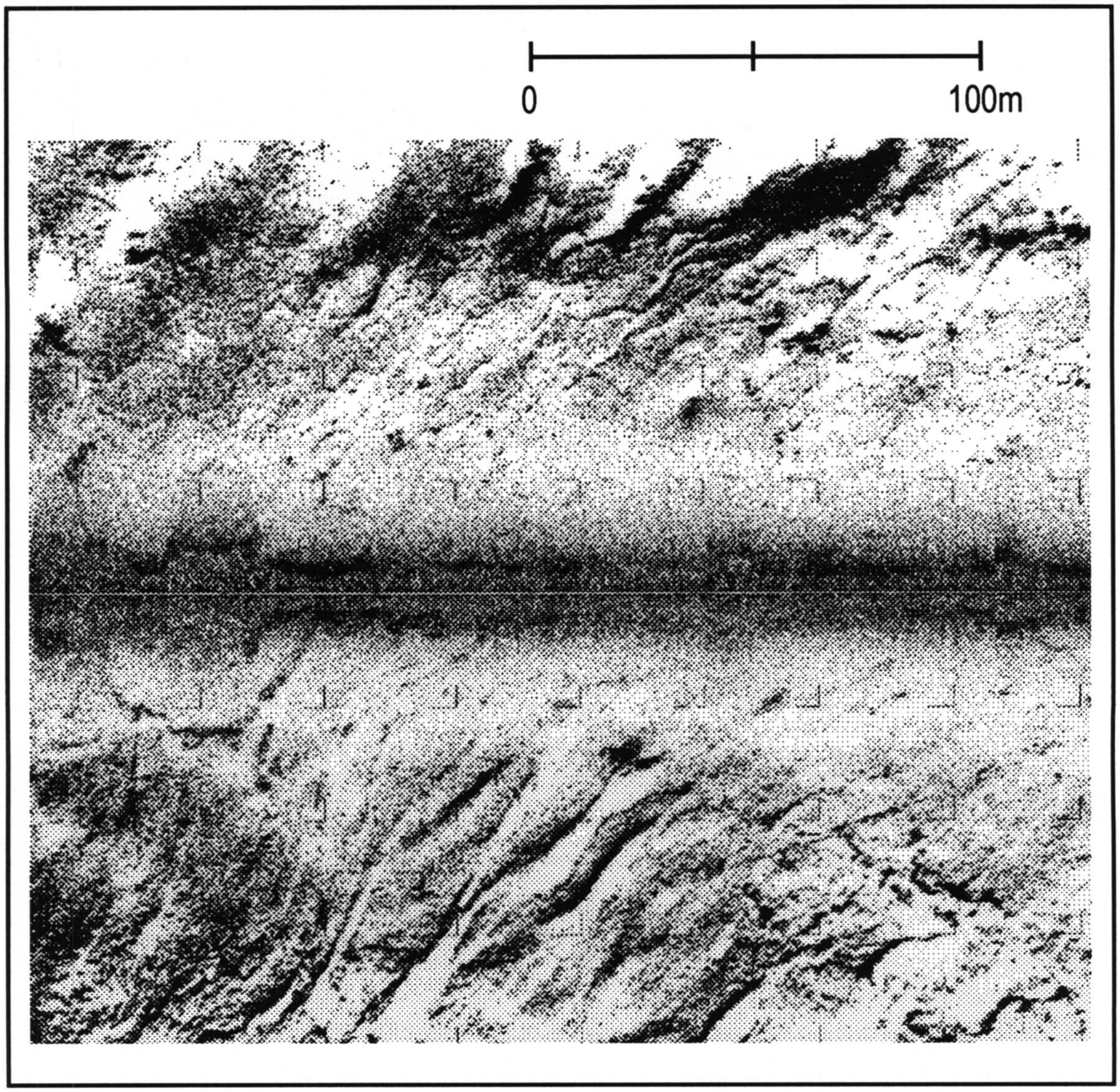

Figure A.14 Side-scan sonar record of the southeastern part of the *NR-1* surveyed mound at the GB 386 site. Note complicated linear or wavy backscatter features.

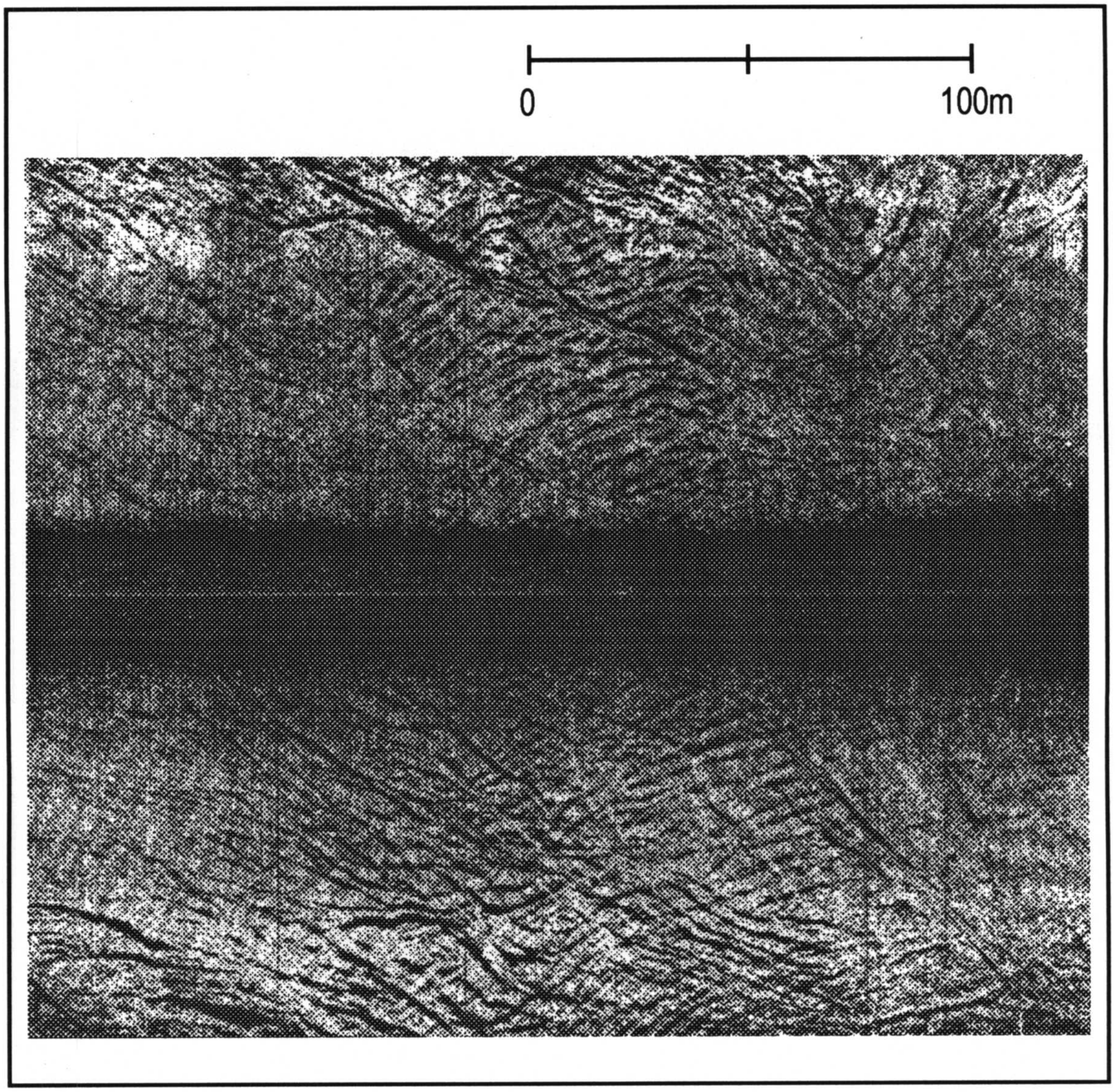

Figure A.15 Side-scan sonar record of a portion of the *NR-1* surveyed mound at the GB 425 site. Note complicated intersecting linear backscatter features. Location is shown in Figure A.12.

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Figure A.17 Photograph of a mud flow at the GB 425 site.

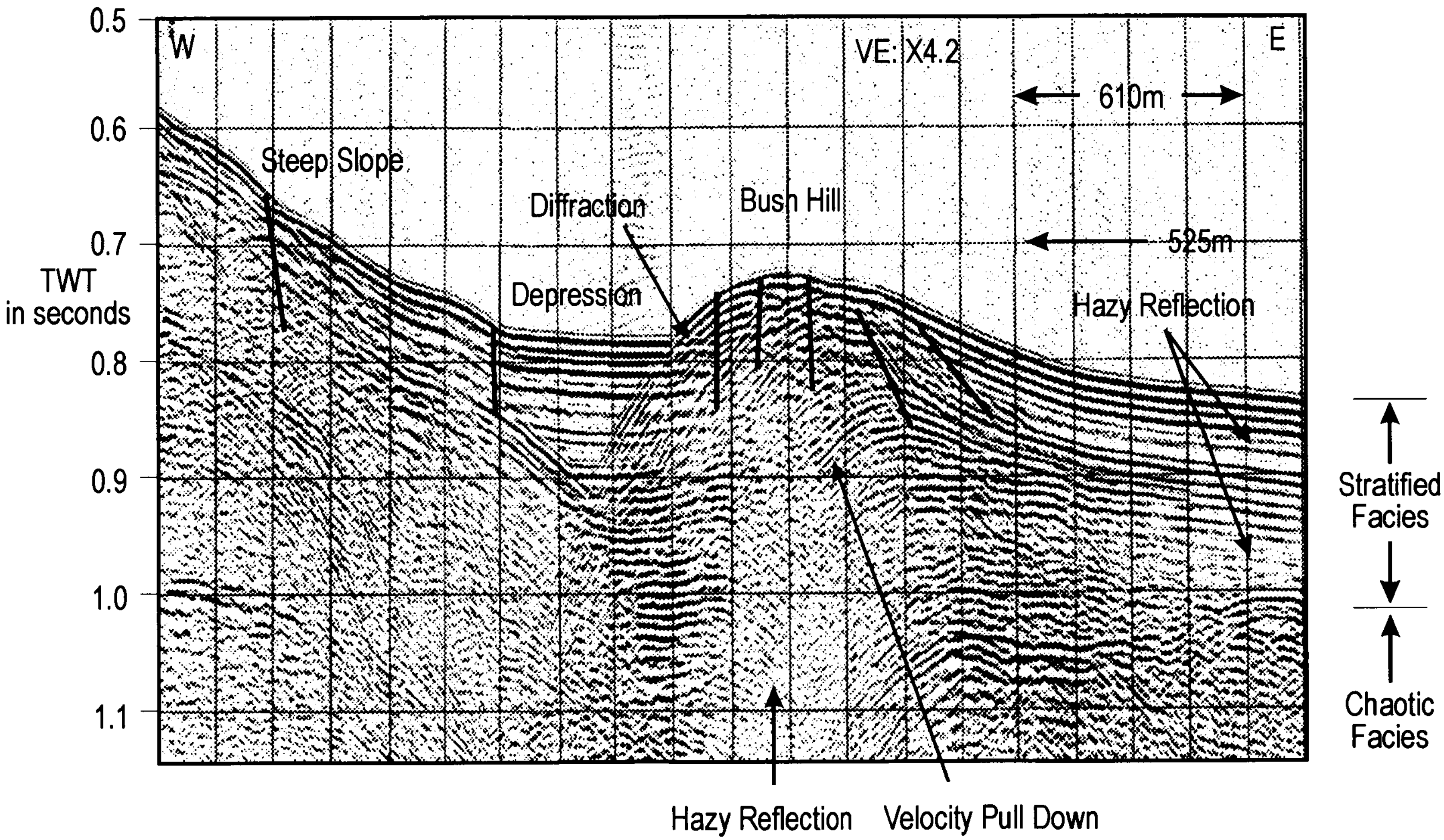

Figure A.18 E-W oriented minisleeve seismic-reflection profile across the Bush Hill mound. Solid black lines that cut across reflectors indicate faults. Line location is shown in Figure A.1. (Proprietary data provided by Conoco.)

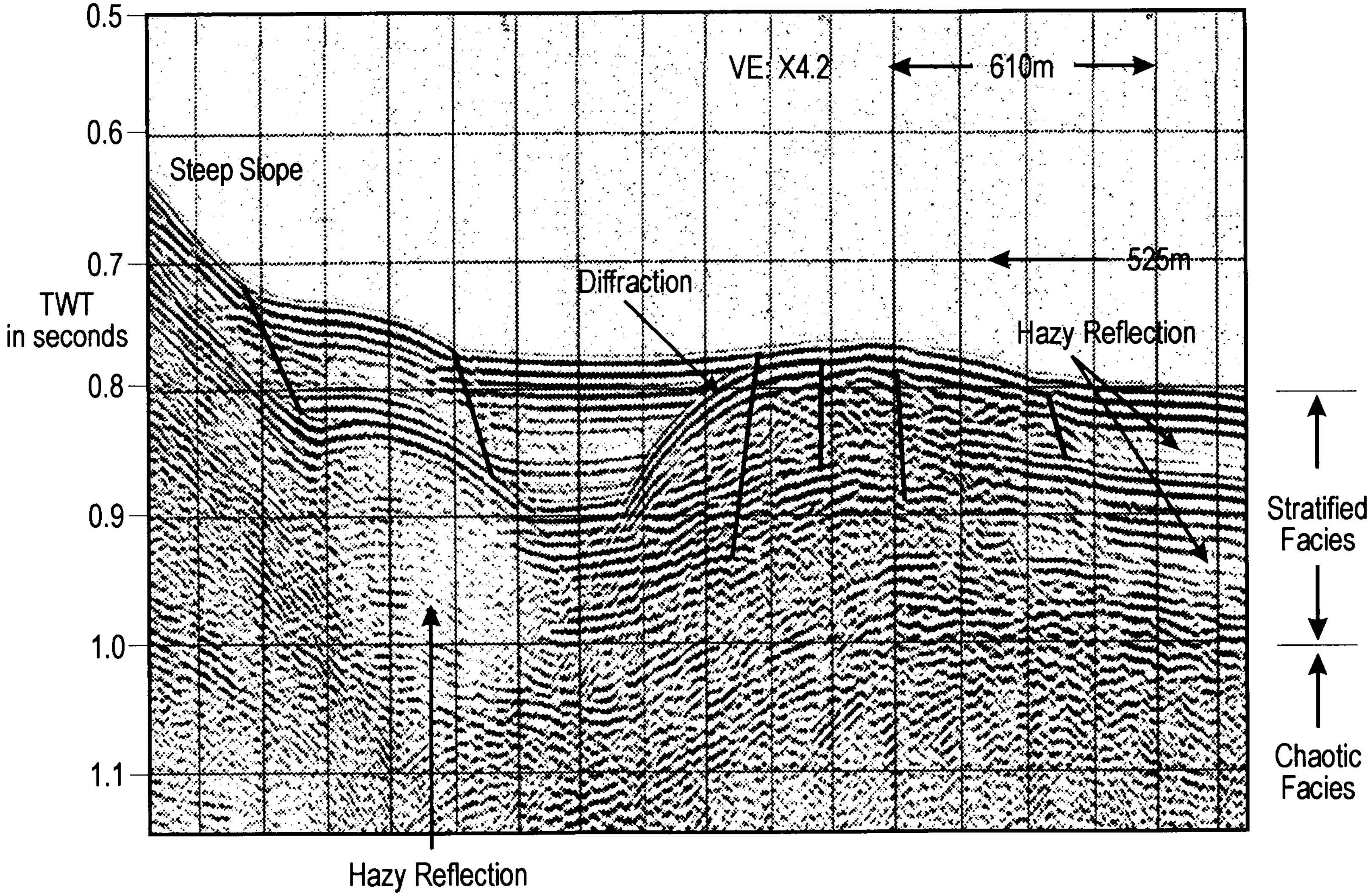

Figure A.19 E-W oriented minisleeve seismic-reflection profile over the northern part of the terrace (north of the Bush Hill mound). Solid black lines that cut across reflectors indicate faults. Line location is shown in Figure A.1. (Proprietary data provided by Conoco.)

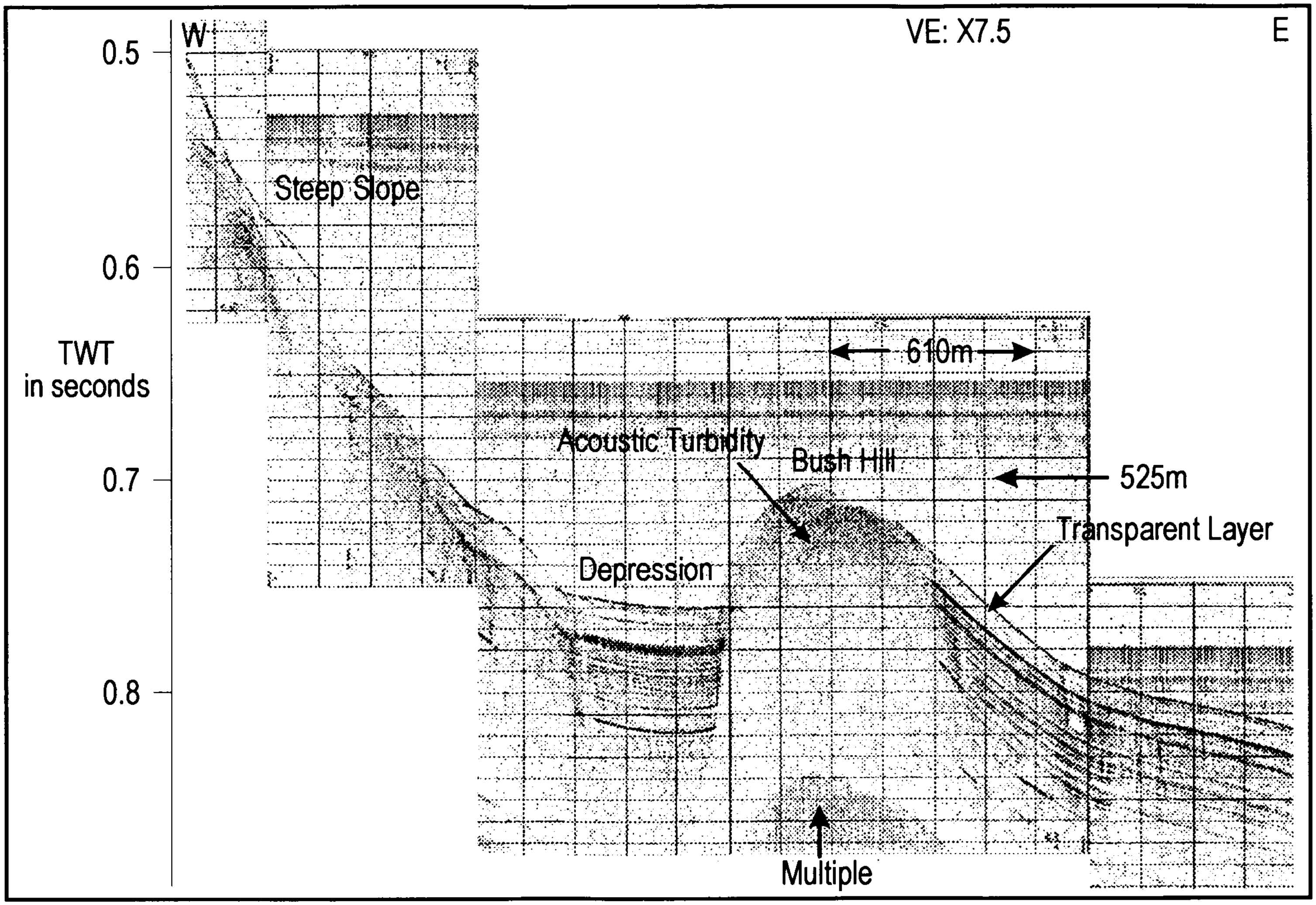

Figure A.20 E-W oriented 3.5 kHz high-resolution seismic-reflection profile across the Bush Hill mound. Note offset of sedimentary layers on either side, indicating fault offset. Line location is shown in Figure A.1. (Proprietary data provided by Conoco.)

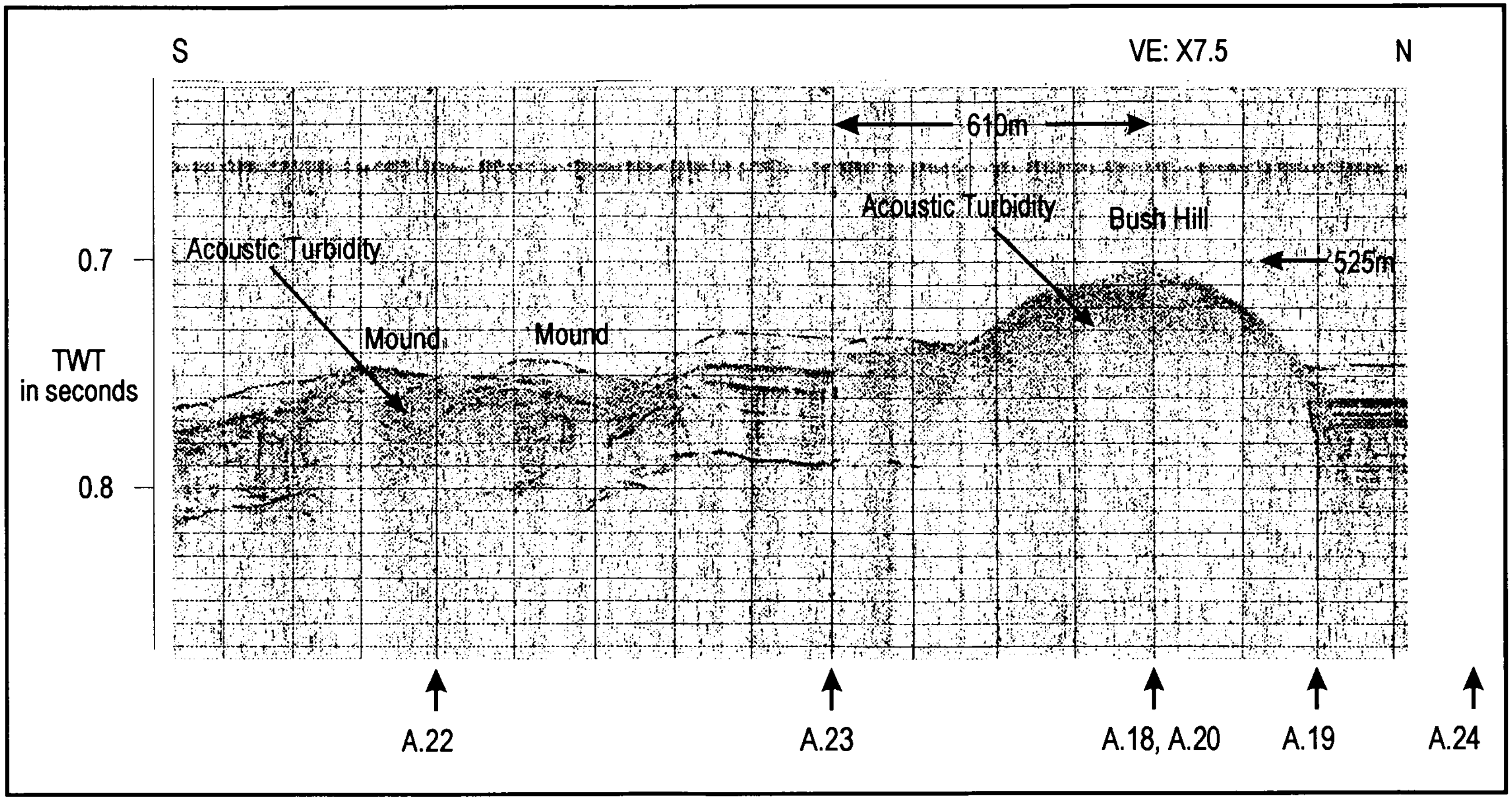

Figure A.21 N-S oriented 3.5 kHz high-resolution seismic-reflection profile across the Bush Hill mound. Line location is shown in Figure A.1. Perpendicular seismic line locations are identified by figure number. (Proprietary data provided by Conoco.)

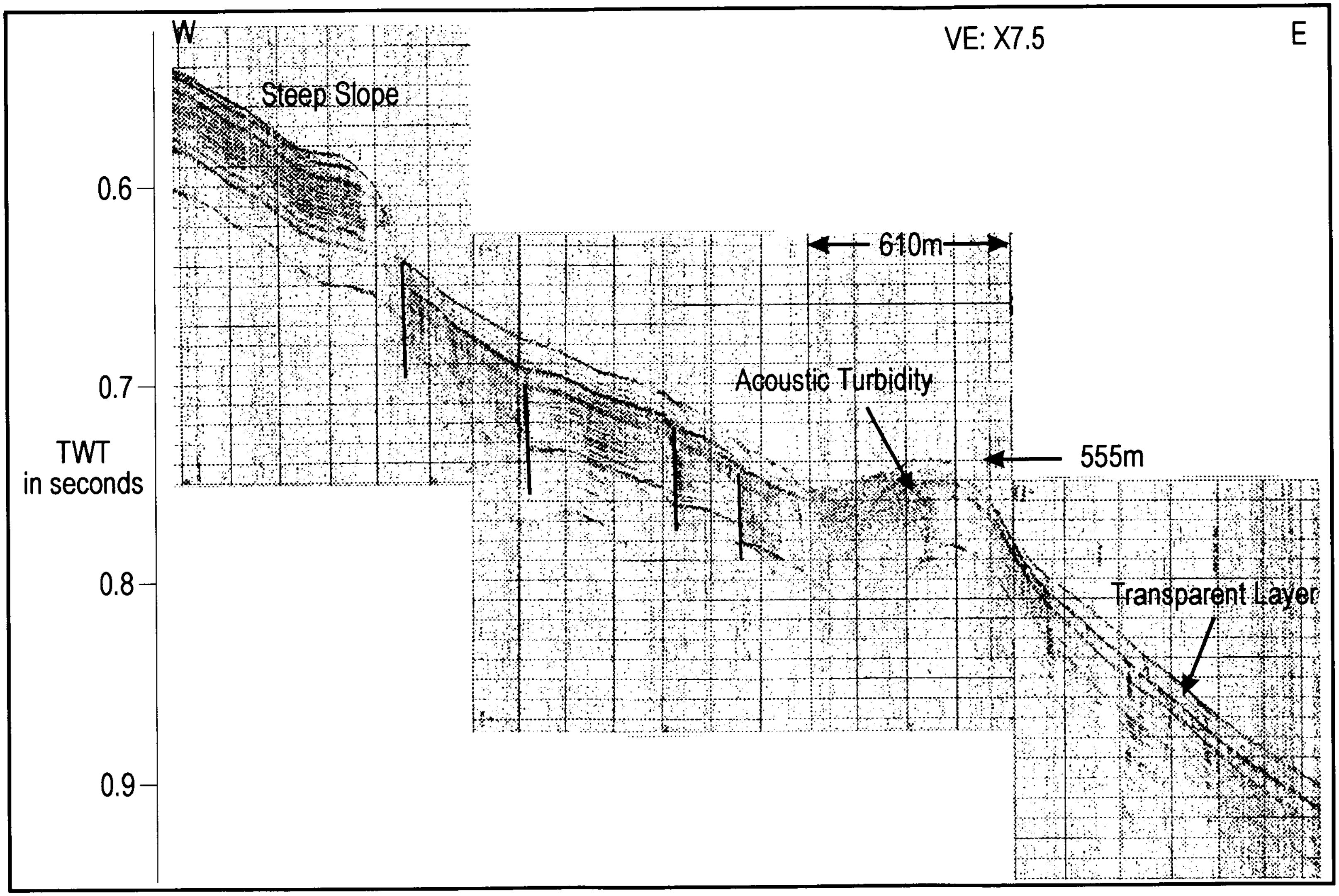

Figure A.22 E-W oriented 3.5 kHz high-resolution seismic-reflection profile across the small scale mound, south of the Bush Hill mound. Solid black lines that cut across reflectors indicate faults. Line location is shown in Figure A.1. (Proprietary data provided by Conoco.)

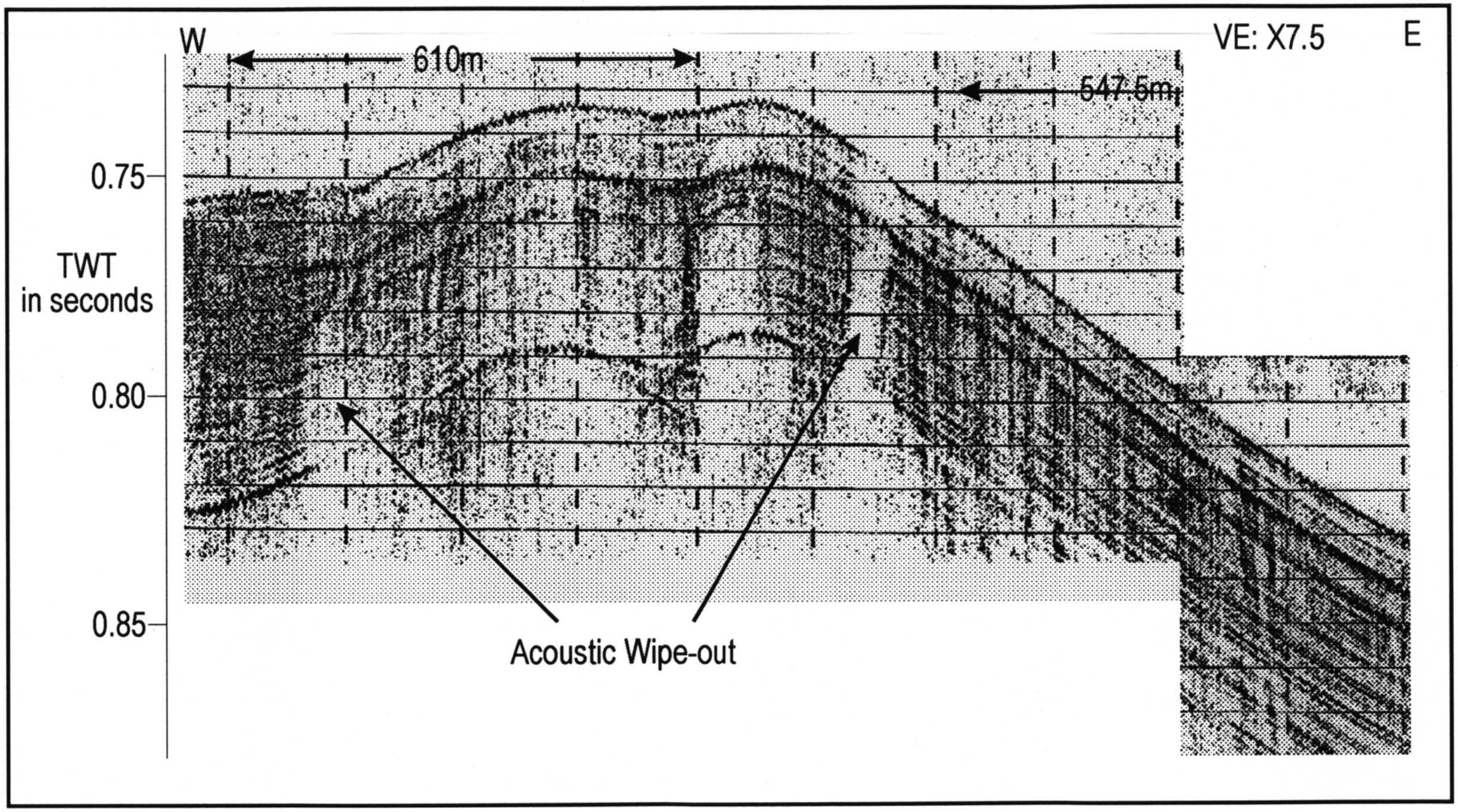

Figure A.23 E-W oriented 3.5 kHz high-resolution seismic-reflection profile over the middle part of the terrace (south of the Bush Hill mound). Line location is shown in Figure A.1. (Proprietary data provided by Conoco.)

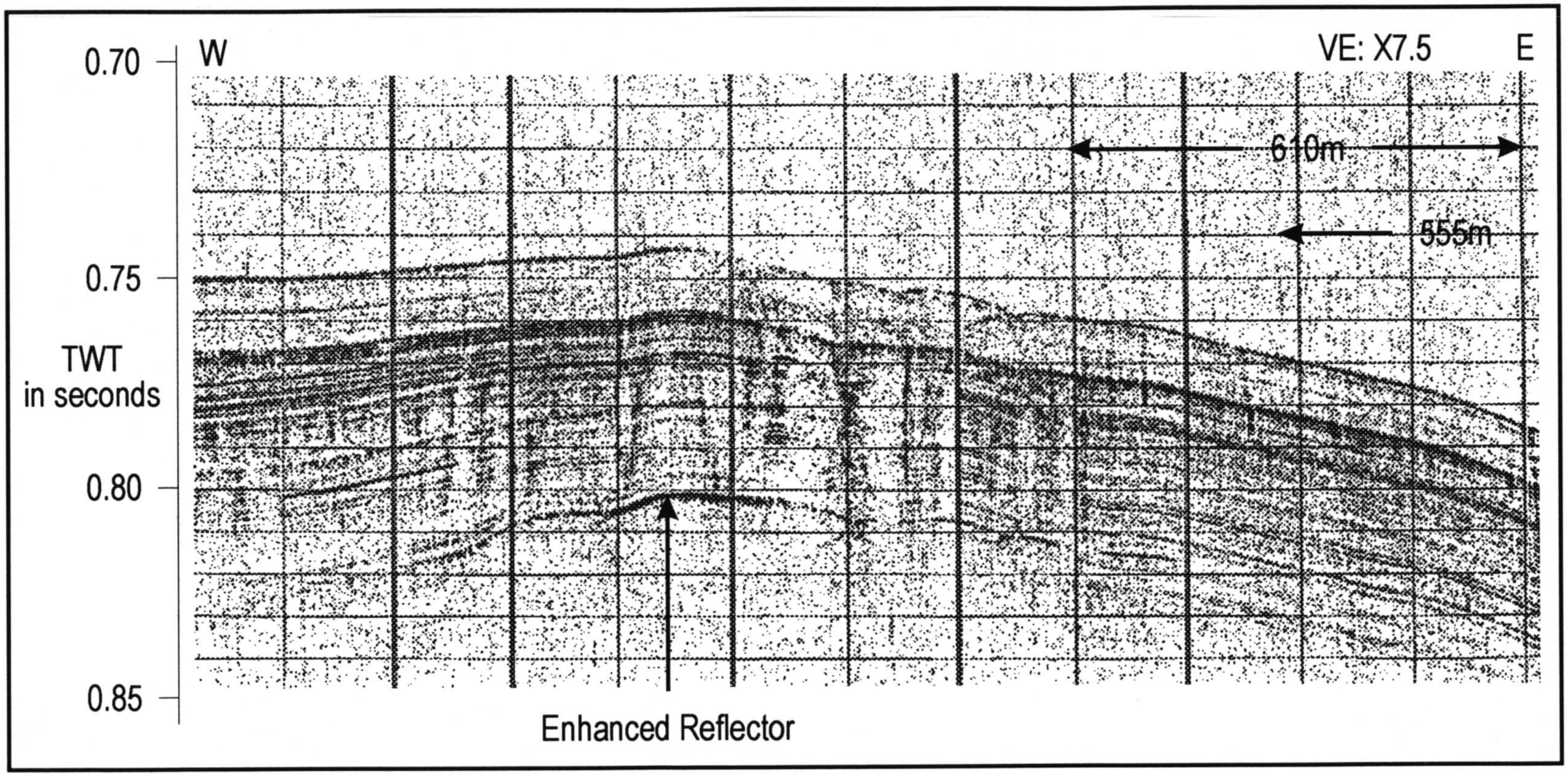

Figure A.24 E-W oriented 3.5 kHz high-resolution seismic-reflection profile over the northern part of the terrace (north of the Bush Hill mound). Line location is shown in Figure A.1. (Proprietary data provided by Conoco.)

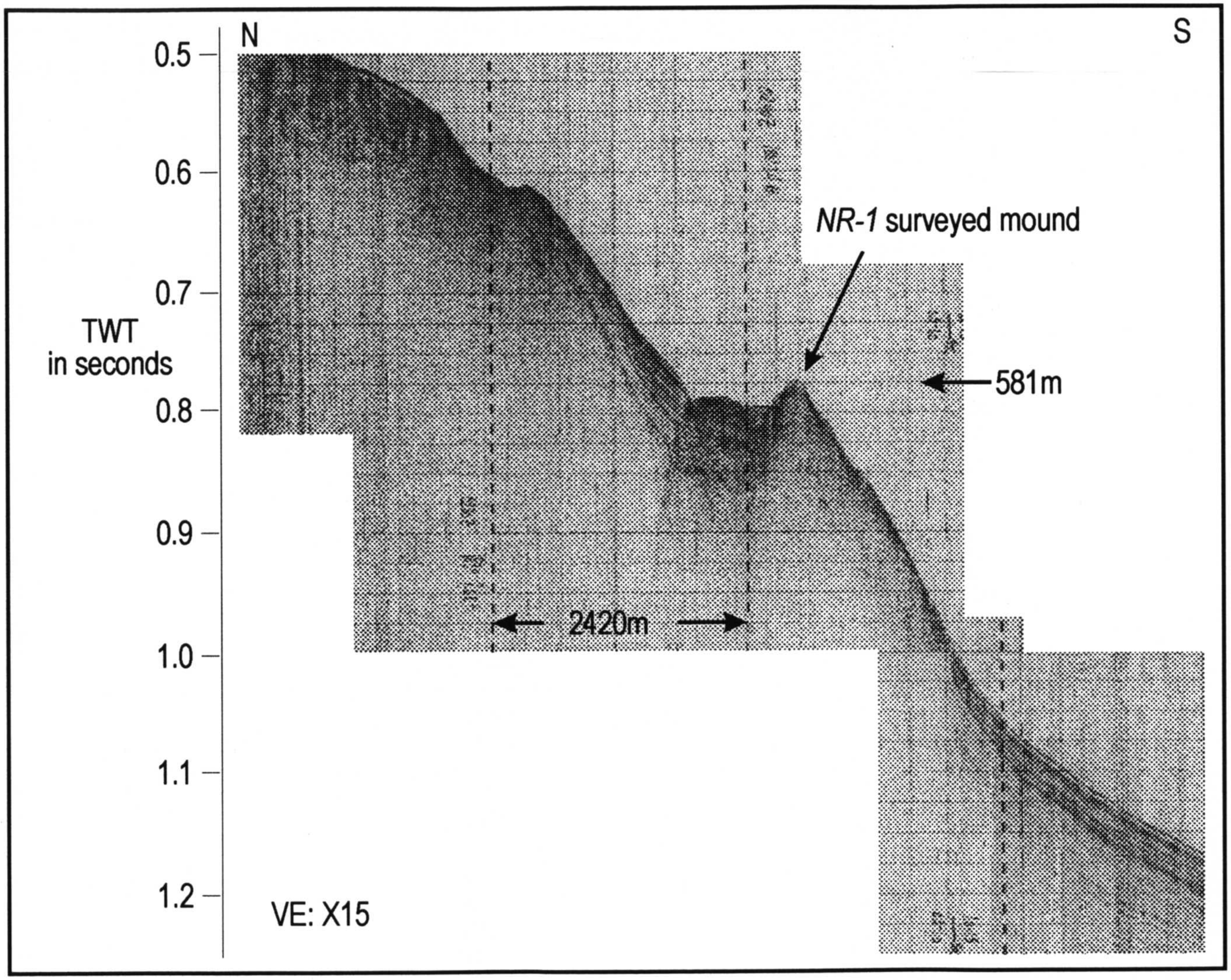

Figure A.25 N-S oriented 3.5 kHz high-resolution seismic-reflection profile across the western edge of the *NR-1* surveyed mound in GB 386, on the flank of a large salt diapir structure. Line location is shown in Figure A.4.

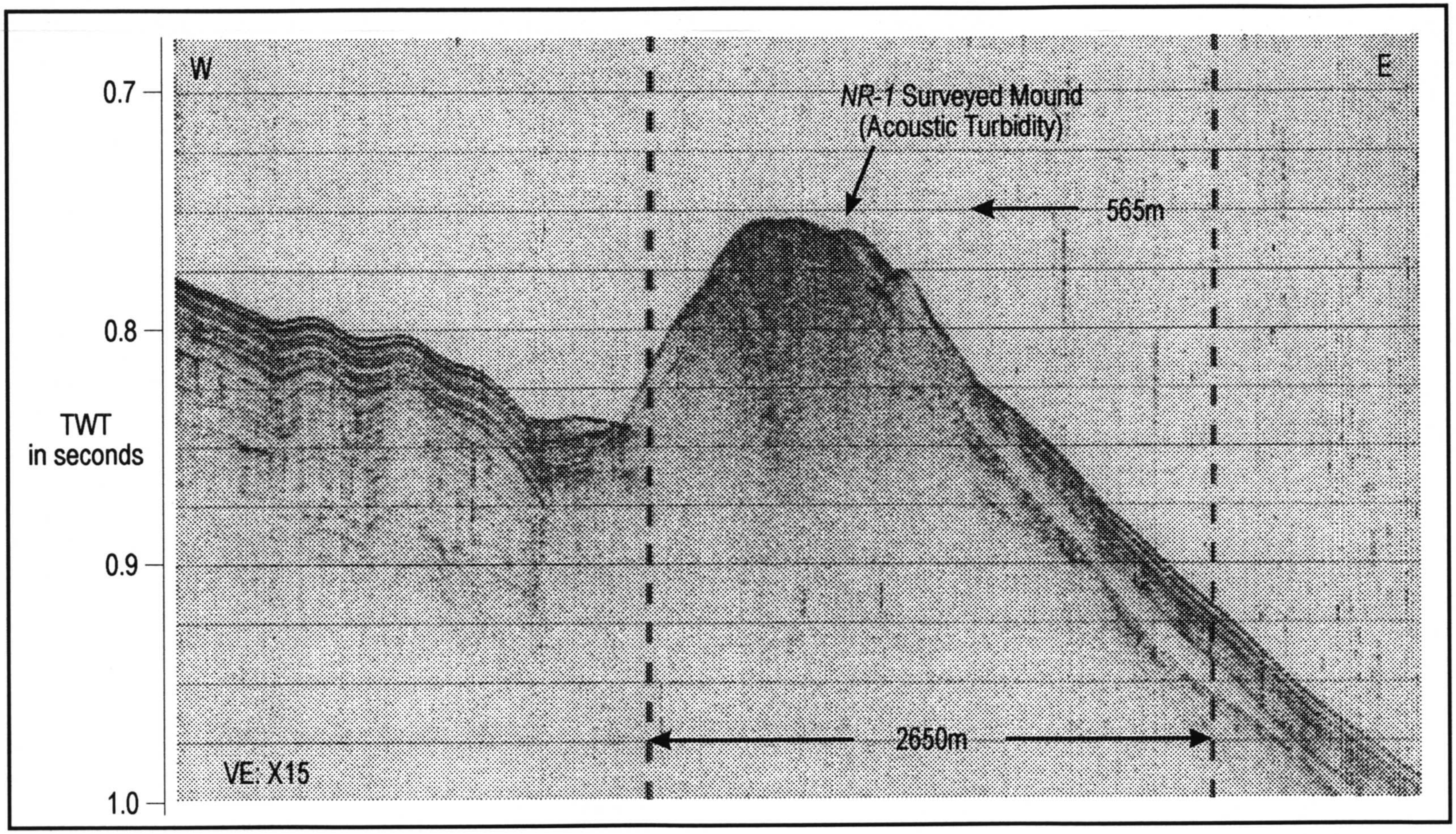

Figure A.26 E-W oriented 3.5 kHz high-resolution seismic-reflection profile across the *NR-1* surveyed mound in GB 425. Line location is shown in Figure A.5.

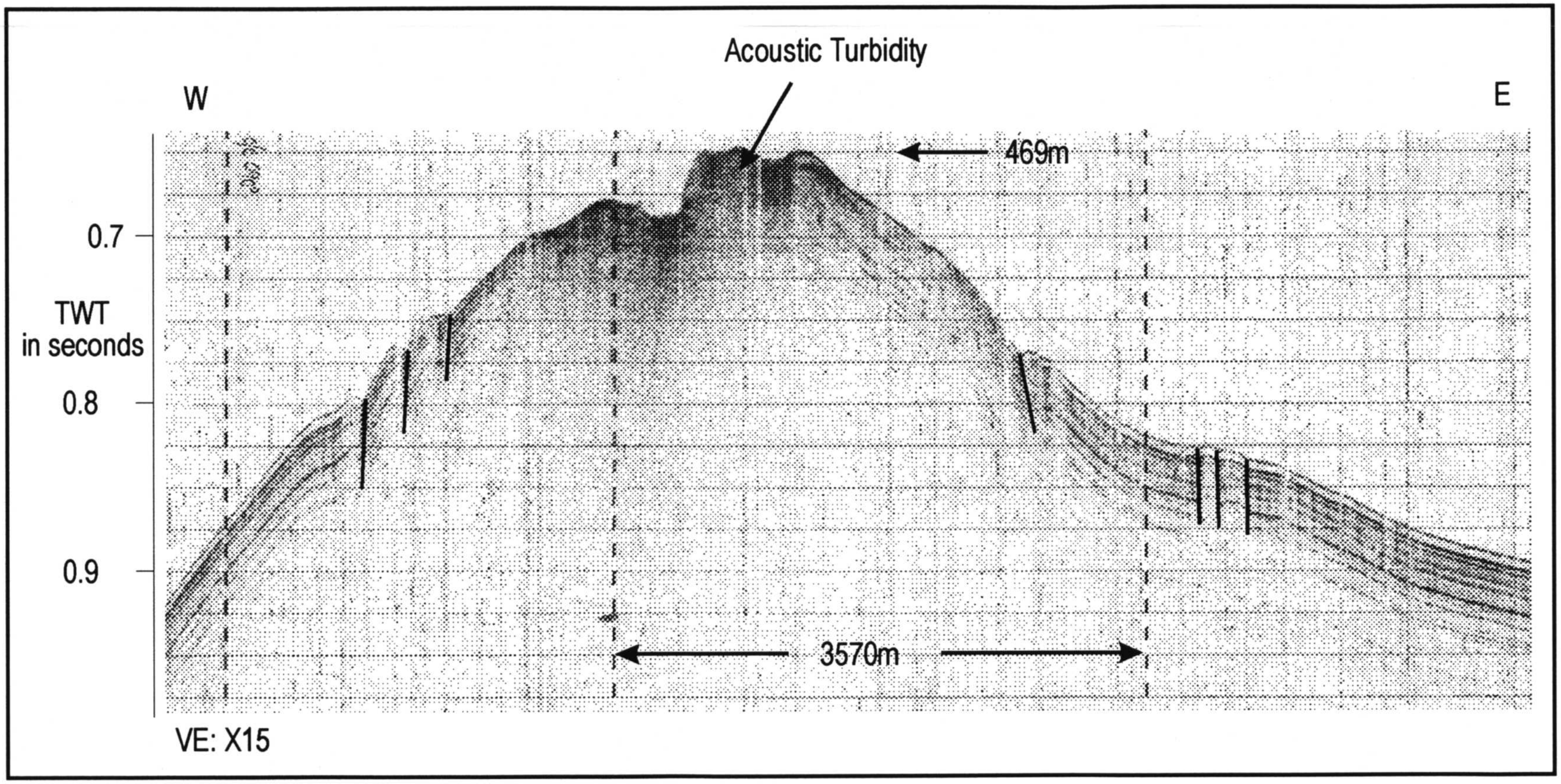

Figure A.27 E-W oriented 3.5 kHz high-resolution seismic-reflection profile across the salt diapir in GB 386. Solid black lines that cut across reflectiors indicate faults. Note normal faults marking the boundary of the acoustic turbidity zone. Line location is shown in Figure A.4.

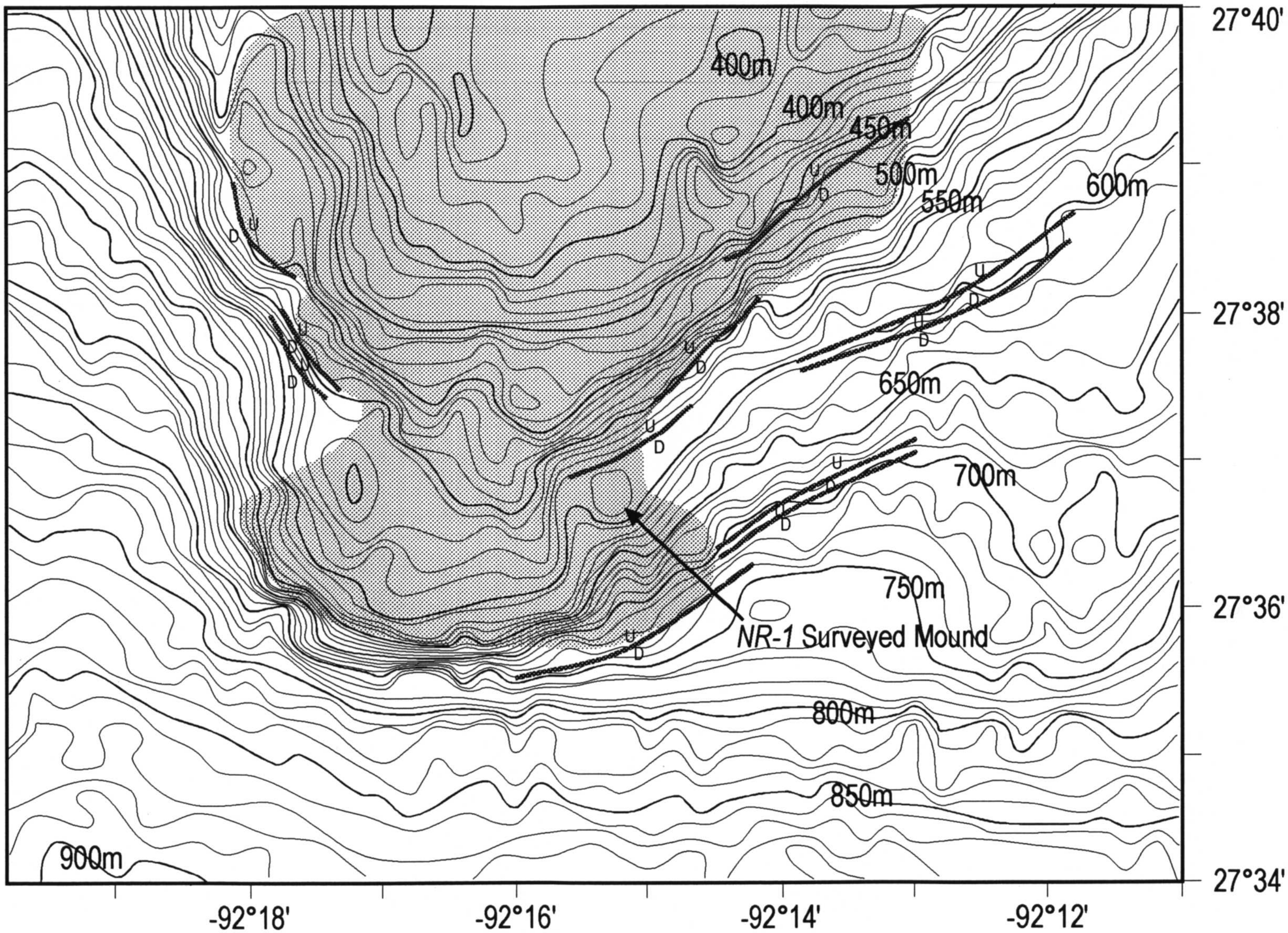

Figure A.28 Fault traces in the GB 386 area, mapped with 3.5 kHz high-resolution seismic-reflection profiles. Shaded pattern represents the acoustic turbidity zone. Bathymetry contours are shown at 10 m intervals.

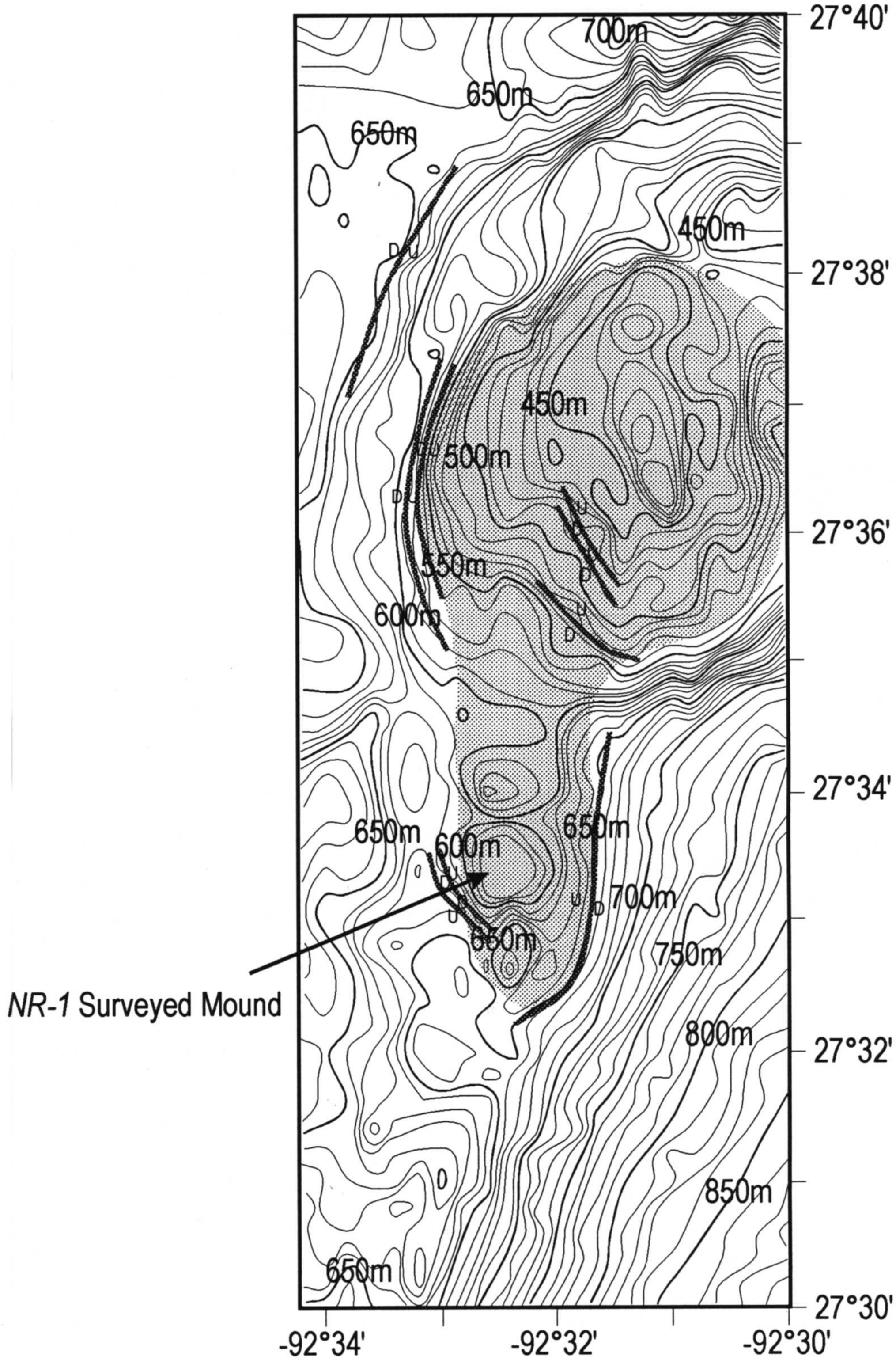

Figure A.29 Fault traces in the GB 425 area, mapped with 3.5 kHz high-resolution seismic-reflection profiles. Shaded pattern represents the acoustic turbidity zone. Bathymetry contours are shown at 10 m intervals.

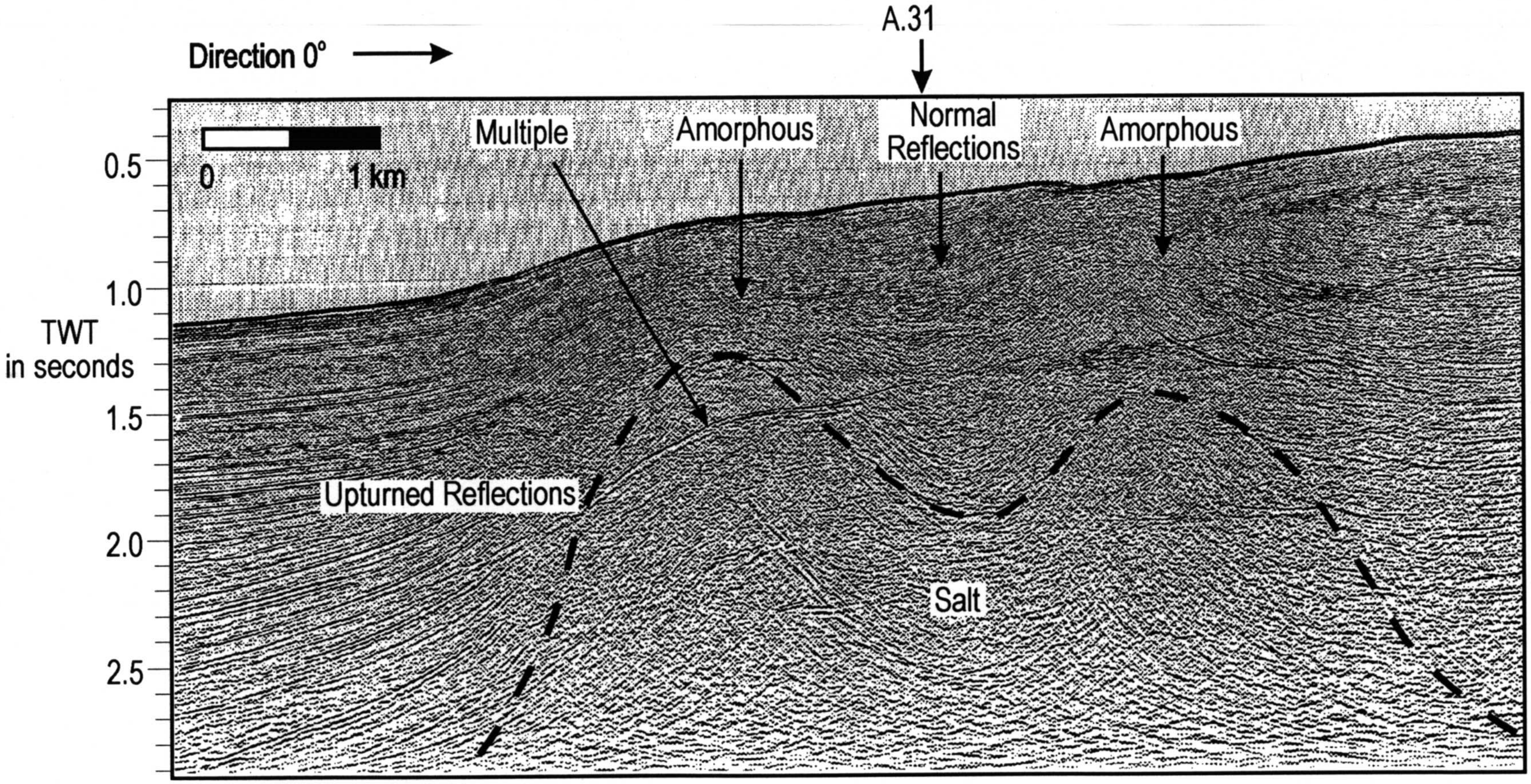

Figure A.30 N-S oriented multi-channel seismic-reflection profile across the GB 386 area. Line location is shown in Figure A.4. Perpendicular seismic line location (Figure A.31) is identified by figure number. (Proprietary data provided by Exxon.)

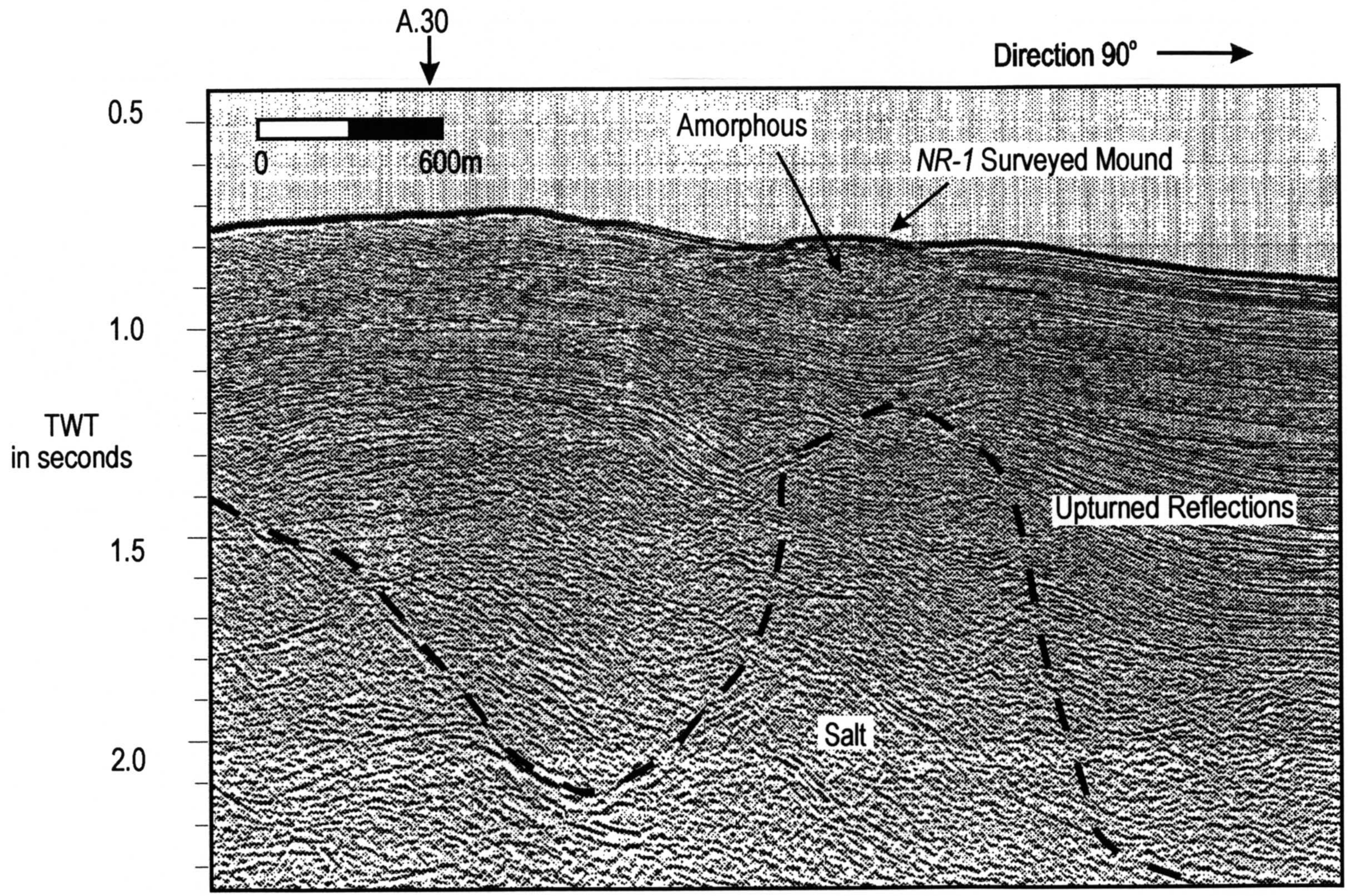

Figure A.31 E-W oriented multi-channel seismic-reflection profile across the *NR-1* surveyed mound in the GB 386 area. Note continuous layers and velocity pull-down phenomena between the mound and and a salt diapir. Line location is shown in Figure A.4. Perpendicular seismic line location (Figure A.30) is identified by figure number. (Proprietary data provided by Exxon.)

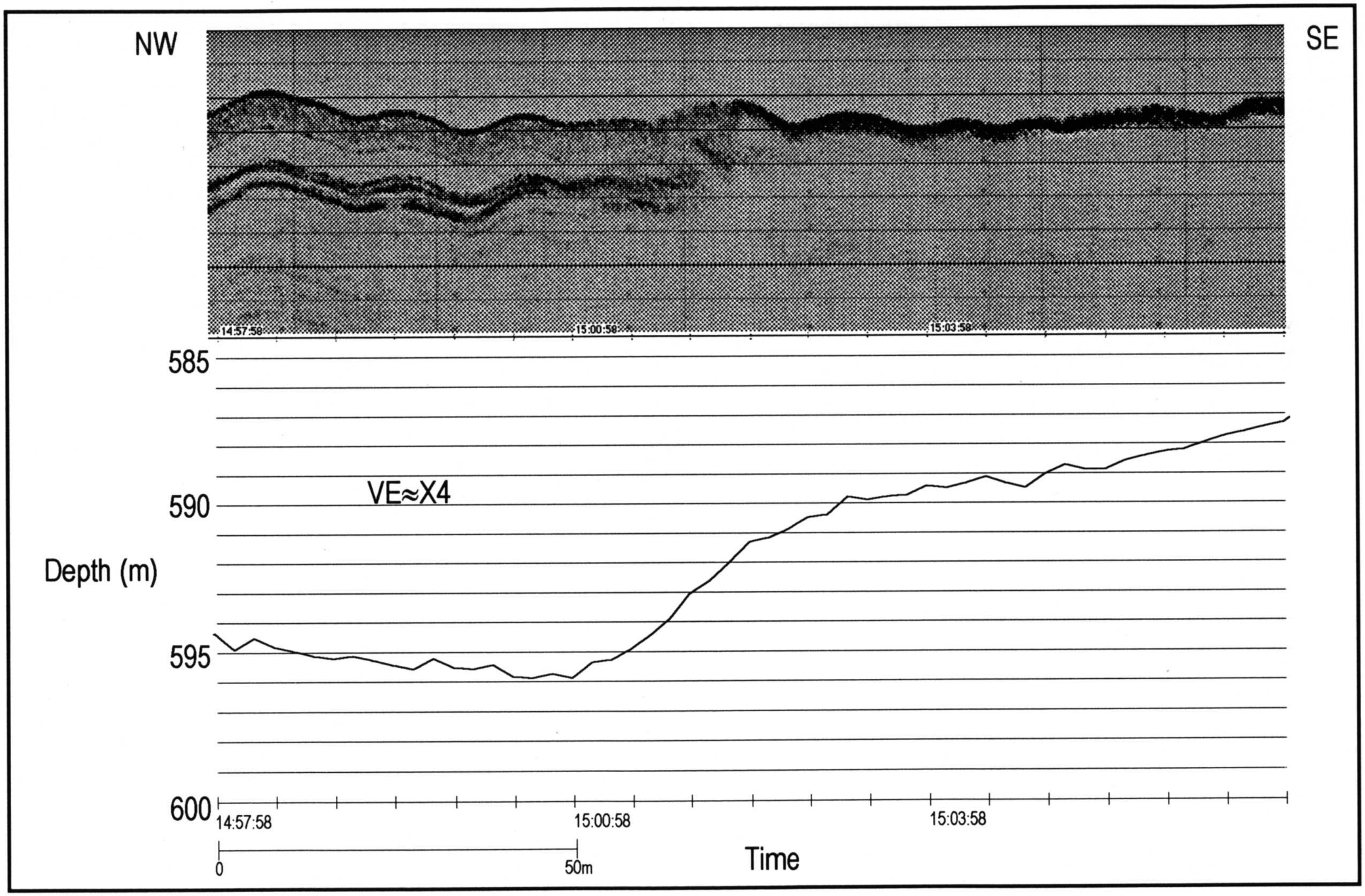

Figure A.32 Example of the sharp boundary between Echo Type I and IV at the GB 386 site. Note the top figure shows artificial variations in seafloor topography, owing to changes in submarine altitude. The bottom figure shows actual topography.

Appendix B

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	SAMPLE	CORE	SECTION	DEPTH	FIX	METHANE (ppm)	ETHANE (ppm)	ETHYLENE (ppm)
L34225	GB386	92081678GB	YELLOW	TOP	0-3 cm	FIX #8	32	1.12	2.35
L34226	GB386	92081678GB	YELLOW	MIDDLE	3-9 cm	FIX #8	39.5	0.2	0.32
L34227	GB386	92081678GB	YELLOW	BOTTOM	9-15 cm	FIX #8	204.7	0.65	0.99
L34228	GB386	92081678GB	WHITE	TOP	0-3 cm	FIX #9	22.2	0.32	0.73
L34229	GB386	92081678GB	WHITE	MIDDLE	3-9 cm	FIX #9	19.7	0.29	0.83
L34230	GB386	92081678GB	WHITE	BOTTOM	9-15 cm	FIX #9	13.6	0.15	0.55
L34231	GB386	92081678GB	W/T	TOP	0-3 cm	FIX #12	22.4	0.34	0.99
L34232	GB386	92081678GB	W/T	MIDDLE	3-9 cm	FIX #12	14.9	0.06	0.3
L34233	GB386	92081678GB	W/T	BOTTOM	9-15 cm	FIX #12	12.7	0.1	0.35
L34113	GC184	92081169BH03	MP-1	TOP	0-5 cm	FIX #12	99.3	2.17	1.98
L34114	GC184	92081169BH03	MP-1	BOTTOM	5-12 cm	FIX #12	142.4	3.12	2.34
L34115	GC184	92081169BH03	MP-3	TOP	0-3 cm	FIX #12	195.2	7.5	7.79
L34116	GC184	92081169BH03	MP-3	BOTTOM	3-10 cm	FIX #12	261	3.84	2.8
L34117	GC184	92081169BH03	MP-4	TOP	0-3 cm	FIX #12	350.1	3.9	3.77
L34118	GC184	92081169BH03	MP-4	BOTTOM	3-10 cm	FIX #12	376.4	5.36	11.49
L34119	GC184	92081169BH03	MP-5	TOP	0-5 cm	FIX #12	173.6	5.51	9.04
L34120	GC184	92081169BH03	MP-5	BOTTOM	5-12 cm	FIX #12	273	6.39	21.07
L34121	GC184	92081169BH03	MP-6	TOP	0-3 cm	FIX #12	512.4	8.05	3.63
L34122	GC184	92081169BH03	MP-6	BOTTOM	3-6 cm	FIX #12	122	3.36	2.62
L34123	GC184	92081169BH03	MP-7	TOP	0-3 cm	FIX #12	348.3	8.38	10.22
L34124	GC184	92081169BH03	MP-7	BOTTOM	3-10 cm	FIX #12	559.1	7.43	1.68
L34125	GC184	92081169BH03	MP-8	TOP	0-3 cm	FIX #12	1063.4	10.19	7.71
L34126	GC184	92081169BH03	MP-8	BOTTOM	3-8 cm	FIX #12	12152.5	54.32	4.76
L34127	GC184	92081169BH03	MP-9	TOP	0-3 cm	FIX #12	355.6	5.3	7.02
L34128	GC184	92081169BH03	MP-9	BOTTOM	3-12 cm	FIX #12	599.9	7.66	3.05
L34129	GC184	92081169BH03	MP-10	TOP	0-5 cm	FIX #12	877.1	9.98	5.67
L34130	GC184	92081169BH03	MP-10	MIDDLE	5-15 cm	FIX #12	883.2	8.62	2.01
L34131	GC184	92081169BH03	MP-10	BOTTOM	>15 cm	FIX #12	1089.1	17.72	7.11
L34132	GC184	92081169BH03	MP-11	TOP	0-5 cm	FIX #12	2833.8	16.21	4.6
L34133	GC184	92081169BH03	MP-11	BOTTOM	5-12 cm	FIX #12	2293	13.24	1.95
L34134	GC184	92081169BH03	MP-12	TOP	0-5 cm	FIX #12	638.2	4.2	3.62
L34135	GC184	92081169BH03	MP-13	TOP	0-3 cm	FIX #12	246.4	2.9	4.31

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	SAMPLE	CORE	SECTION	DEPTH	FIX	METHANE (ppm)	ETHANE (ppm)	ETHYLENE (ppm)
L34136	GC184	92081169BH03	MP-13	BOTTOM	3-10 cm	FIX #12	303.1	3.76	2.02
L34137	GC184	92081169BH03	MP-14	TOP	0-3 cm	FIX #12	163.9	5.94	8.43
L34138	GC184	92081169BH03	MP-14	BOTTOM	3-12 cm	FIX #12	348	4.25	2.28
L34139	GC184	92081169BH03	MP-15	TOP	0-3 cm	FIX #12	178.5	4.33	5.76
L34140	GC184	92081169BH03	MP-15	BOTTOM	3-10 cm	FIX #12	575.5	6.53	2.38
L34217	GC184	92081170BH91	PC-1	TOP	0-5 cm	FIX #8	143.6	1.07	1.46
L34218	GC184	92081170BH91	PC-1	BOTTOM	5-15 cm	FIX #8	76.7	0.23	0.13
L34219	GC184	92081474GC	PC-1	TOP	0-3 cm	FIX #8	3558.3	9.77	2.18
L34220	GC184	92081474GC	PC-1	MIDDLE	3-13 cm	FIX #8	1248.3	5.49	0.36
L34221	GC184	92081474GC	PC-1	BOTTOM	13-17	FIX #8	966.6	7	1.72
L34222	GC184	92081474GC	PC-2	TOP	0-5 cm	FIX #8	206.1	4.56	6.12
L34223	GC184	92081474GC	PC-2	MIDDLE	5-15 cm	FIX #8	163.9	0.24	0.13
L34224	GC184	92081474GC	PC-2	BOTTOM		FIX #8	144.8	1.11	0.62
L34083	GC234	92080965GC01	MP-1	TOP	0-10 cm	FIX #4	70.9	1.29	1.51
L34084	GC234	92080965GC01	MP-1	BOTTOM	10-12 cm	FIX #4	119.4	1.91	4.47
L34085	GC234	92080965GC01	MP-2	TOP	0-10 cm	FIX #4	981.5	19.15	6.61
L34086	GC234	92080965GC01	MP-2	BOTTOM	>10 cm	FIX #4	356.8	4.27	2.84
L34087	GC234	92080965GC01	MP-3	TOP	0-10 cm	FIX #4	50.1	1.27	2.63
L34088	GC234	92080965GC01	MP-3	BOTTOM	10-11 cm	FIX #4	462.4	4.56	10.48
L34089	GC234	92080965GC01	MP-4	TOP	0-10 cm	FIX #4	28.5	0.63	1.2
L34090	GC234	92080965GC01	MP-4	BOTTOM	>10 cm	FIX #4	33.5	0.66	1.43
L34091	GC234	92080965GC01	MP-5	TOP	0-10 cm	FIX #4	337.7	4.72	1.31
L34092	GC234	92080965GC01	MP-5	BOTTOM	10-17 cm	FIX #4	949.8	11.93	1.72
L34093	GC234	92080965GC01	MP-6	TOP	0-10 cm	FIX #4	1754	28.19	2.81
L34094	GC234	92080965GC01	MP-6	BOTTOM	>10 cm	FIX #4	465.8	3.6	2.98
L34095	GC234	92080965GC01	MP-7	TOP	0-10 cm	FIX #4	45.6	0.56	1.11
L34096	GC234	92080965GC01	MP-7	BOTTOM	>10 cm	FIX #4	76.3	0.98	1.2
L34097	GC234	92080965GC01	MP-8	TOP	0-10 cm	FIX #4	100.9	0.85	1.25
L34098	GC234	92080965GC01	MP-8	BOTTOM	>10 cm	FIX #4	240.8	3.14	0.89
L34099	GC234	92080965GC01	MP-9	TOP	0-10 cm	FIX #4	37178.4	384.87	3.31
L34100	GC234	92080965GC01	MP-9	BOTTOM	>10 cm	FIX #4	33250.9	297.96	1.3
L34101	GC234	92080965GC01	MP-10	TOP	0-10 cm	FIX #4	4897.2	55.85	1.09

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	SAMPLE	CORE	SECTION	DEPTH	FIX	METHANE (ppm)	ETHANE (ppm)	ETHYLENE (ppm)
L34102	GC234	92080965GC01	MP-10	BOTTOM	>10 cm	FIX #4	1253.8	13.96	1.25
L34103	GC234	92080965GC01	MP-11	TOP	0-10 cm	FIX #4	364.8	5.16	1.97
L34104	GC234	92080965GC01	MP-11	BOTTOM	>10 cm	FIX #4	109.1	1.21	2.19
L34105	GC234	92080965GC01	MP-12	TOP	0-10 cm	FIX #4	20793.3	231.93	1.26
L34106	GC234	92080965GC01	MP-12	BOTTOM	>10 cm	FIX #4	1512.5	14.99	1.91
L34107	GC234	92080965GC01	MP-13	TOP	0-10 cm	FIX #4	75.6	1.18	2.8
L34108	GC234	92080965GC01	MP-13	BOTTOM	>10 cm	FIX #4	73.4	1.32	2.67
L34109	GC234	92080965GC01	MP-14	TOP	0-10 cm	FIX #4	90.3	0.79	1.55
L34110	GC234	92080965GC01	MP-14	BOTTOM	>10 cm	FIX #4	129.4	1.22	2.02
L34111	GC234	92080965GC01	MP-15	TOP	0-10 cm	FIX #4	44.5	0.76	1.76
L34112	GC234	92080965GC01	MP-15	BOTTOM	>10 cm	FIX #4	55.8	1.46	2.86
L34204	GC234	92080965GC01	PC-1	TOP	0-10 cm	FIX #4	67.1	0.52	0.42
L34205	GC234	92080965GC01	PC-1	MIDDLE	10-20 cm	FIX #4	70.1	0.15	0.13
L34206	GC234	92080965GC01	PC-1	BOTTOM	>20 cm	FIX #4	47.7	0.62	1.66
L34207	GC234	92080966GC92		TOP	0-10 cm	FIX #5	3420.6	24.77	0.41
L34208	GC234	92080966GC92		BOTTOM	>10 cm	FIX #5	1262.6	11.35	0.32
L34209	GC234	92080966GC92		TOP	0-10 cm	FIX #7	59.6	0.32	0.54
L34210	GC234	92080966GC92		BOTTOM	>10 cm	FIX #7	46.7	0.4	0.66
L34211	GC234	92081068GC01	PC-1	TOP	0-2 cm	FIX #7	21241.4	442.21	0.81
L34212	GC234	92081068GC01	PC-1	MIDDLE	2-12 cm	FIX #7	17947.1	404.63	0.09
L34213	GC234	92081068GC01	PC-1	BOTTOM	>12 cm	FIX #7	6622.1	56.2	0.24
L34214	GC234	92081068GC01	PC-2	TOP	0-2 cm	FIX #7	33192.8	604.21	0.65
L34215	GC234	92081068GC01	PC-2	MIDDLE	2-13 cm	FIX #7	12479.4	126.53	0
L34216	GC234	92081068GC01	PC-2	BOTTOM	>13 cm	FIX #7	9294.1	114.02	0.45
L34243	GC234	92082184GC02	MP 1	UPPER 2 cm		FIX #9	50.1	1.98	3.76
L34244	GC234	92082184GC02	MP 1	LOWER 12 cm		FIX #9	63.8	1.38	1.18
L34245	GC234	92082184GC02	MP 2	UPPER 2 cm		FIX #9	30	1.12	2.9
L34246	GC234	92082184GC02	MP 2	LOWER 10 cm		FIX #9	396.6	3.58	1.86
L34247	GC234	92082184GC02	MP 5	UPPER 5 cm		FIX #9	669.3	6.94	1.29
L34248	GC234	92082184GC02	MP 5	LOWER 8 cm		FIX #9	1682.3	7.23	0.94
L34249	GC234	92082184GC02	MP 6	UPPER 4 cm		FIX #9	47.9	1.11	2.99
L34250	GC234	92082184GC02	MP 6	LOWER 9 cm		FIX #9	113.3	1.57	2.02

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	SAMPLE	CORE	SECTION	DEPTH	FIX	METHANE (ppm)	ETHANE (ppm)	ETHYLENE (ppm)
L34251	GC234	92082184GC02	MP 7	ALL 2 cm		FIX #9	2088.7	28.41	2.6
L34252	GC234	92082184GC02	MP 8	ALL 2 cm		FIX #9	704.9	7.71	2.44
L34141	GC272	92081779GC	MP-1	TOP	0-3 cm	FIX #8	49.7	0.87	0.84
L34142	GC272	92081779GC	MP-1	MIDDLE	3-9 cm	FIX #8	85.4	1.74	0.8
L34143	GC272	92081779GC	MP-1	BOTTOM	9-15 cm	FIX #8	8753.9	33.56	1.91
L34144	GC272	92081779GC	MP-2	TOP	0-3 cm	FIX #8	39.6	0.99	1.21
L34145	GC272	92081779GC	MP-2	MIDDLE	3-9 cm	FIX #8	29.6	0.94	0.64
L34146	GC272	92081779GC	MP-2	BOTTOM	9-15 cm	FIX #8	32.9	0.59	0.29
L34147	GC272	92081779GC	MP-3	TOP	0-3 cm	FIX #8	104.5	2	2.55
L34148	GC272	92081779GC	MP-3	MIDDLE	3-9 cm	FIX #8	149.3	3.6	1.12
L34149	GC272	92081779GC	MP-3	BOTTOM	9-15 cm	FIX #8	460.3	11.02	1.26
L34150	GC272	92081779GC	MP-5	TOP	0-3 cm	FIX #8	69.3	1.36	1.17
L34151	GC272	92081779GC	MP-5	MIDDLE	3-9 cm	FIX #8	47.8	1.14	0.75
L34152	GC272	92081779GC	MP-5	BOTTOM	9-15 cm	FIX #8	159.2	4.79	0.61
L34153	GC272	92081779GC	MP-6	TOP	0-3 cm	FIX #8	159.2	2.96	2.72
L34154	GC272	92081779GC	MP-6	MIDDLE	3-9 cm	FIX #8	105.3	3.48	1.08
L34155	GC272	92081779GC	MP-6	BOTTOM	9-15 cm	FIX #8	492.3	11.28	1.36
L34156	GC272	92081779GC	MP-7	TOP	0-3 cm	FIX #8	130.2	2.63	2.46
L34157	GC272	92081779GC	MP-7	MIDDLE	3-9 cm	FIX #8	44.4	1.23	0.41
L34158	GC272	92081779GC	MP-7	BOTTOM	9-15 cm	FIX #8	173	4.17	0.2
L34159	GC272	92081779GC	MP-8	TOP	0-3 cm	FIX #8	64.6	1.68	1.68
L34160	GC272	92081779GC	MP-8	MIDDLE	3-9 cm	FIX #8	226.4	5.11	3.46
L34161	GC272	92081779GC	MP-8	BOTTOM	9-15 cm	FIX #8	364.9	8.43	1.41
L34162	GC272	92081779GC	MP-9	TOP	0-3 cm	FIX #8	95.5	2.65	2.39
L34163	GC272	92081779GC	MP-9	MIDDLE	3-9 cm	FIX #8	63.2	1.7	0.73
L34164	GC272	92081779GC	MP-9	BOTTOM	9-15 cm	FIX #8	140	3.61	0.87
L34165	GC272	92081779GC	MP-10	TOP	0-3 cm	FIX #8	225.8	4.78	3.15
L34166	GC272	92081779GC	MP-10	MIDDLE	3-9 cm	FIX #8	120.3	2.66	0.83
L34167	GC272	92081779GC	MP-10	BOTTOM	9-15 cm	FIX #8	291.4	6.47	1.55
L34168	GC272	92081779GC	MP-11	TOP	0-3 cm	FIX #8	183.7	3.95	3.55
L34169	GC272	92081779GC	MP-11	MIDDLE	3-9 cm	FIX #8	564.1	13.68	6.99
L34170	GC272	92081779GC	MP-11	BOTTOM	9-15 cm	FIX #8	274.9	6.14	1.41

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	SAMPLE	CORE	SECTION	DEPTH	FIX	METHANE (ppm)	ETHANE (ppm)	ETHYLENE (ppm)
L34171	GC272	92081779GC	MP-12	TOP	0-3 cm	FIX #8	52.5	1.27	1.47
L34172	GC272	92081779GC	MP-12	MIDDLE	3-9 cm	FIX #8	89	2.13	0.91
L34173	GC272	92081779GC	MP-12	BOTTOM	9-15 cm	FIX #8	368.4	8.88	0.76
L34174	GC272	92081780GC	MP-1	TOP	0-3 cm	FIX #10	122.4	1.89	1.86
L34175	GC272	92081780GC	MP-1	MIDDLE	3-10 cm	FIX #10	181.7	1.52	0.42
L34176	GC272	92081780GC	MP-1	BOTTOM	10-18 cm	FIX #10	15694.5	237.17	0.48
L34177	GC272	92081780GC	MP-2	TOP	0-3 cm	FIX #10	147.3	1.15	0.94
L34178	GC272	92081780GC	MP-2	MIDDLE	3-11 cm	FIX #10	14265.4	37.16	0.64
L34179	GC272	92081780GC	MP-2	BOTTOM	11-21 cm	FIX #10	159059.7	3569.68	0
L34180	GC272	92081780GC	MP-3	TOP	0-3 cm	FIX #10	214	2.35	3.98
L34181	GC272	92081780GC	MP-3	MIDDLE	3-10 cm	FIX #10	360.9	4.11	2
L34182	GC272	92081780GC	MP-3	BOTTOM	10-21 cm	FIX #10	32851.1	475.84	0.37
L34183	GC272	92081780GC	MP-4	TOP	0-3 cm	FIX #10	107.5	1.31	2.35
L34184	GC272	92081780GC	MP-4	MIDDLE	3-11 cm	FIX #10	188	1.8	0.64
L34185	GC272	92081780GC	MP-4	BOTTOM	11-25 cm	FIX #10	26286.5	396.77	0.27
L34186	GC272	92081780GC	MP-5	TOP	0-3 cm	FIX #10	58208.8	1122.63	4.91
L34187	GC272	92081780GC	MP-5	MIDDLE	3-11 cm	FIX #10	60677.8	1339.51	0.44
L34188	GC272	92081780GC	MP-5	BOTTOM	11-25 cm	FIX #10	35991.9	1409.54	0.21
L34189	GC272	92081780GC	MP-6	TOP	0-3 cm	FIX #10	225.2	4.78	3.55
L34190	GC272	92081780GC	MP-6	MIDDLE	3-11 cm	FIX #10	597.2	12.27	0.87
L34191	GC272	92081780GC	MP-6	BOTTOM	11-25 cm	FIX #10	45018.6	1357.01	0.8
L34192	GC272	92081780GC	MP-8	TOP	0-3 cm	FIX #10	36.2	0.76	0.84
L34193	GC272	92081780GC	MP-8	MIDDLE	3-11 cm	FIX #10	28774.8	726.71	0.37
L34194	GC272	92081780GC	MP-8	BOTTOM	11-25 cm	FIX #10	29797.7	766.81	0.34
L34195	GC272	92081780GC	MP-9	TOP	0-3 cm	FIX #10	88.4	1.23	1.87
L34196	GC272	92081780GC	MP-9	MIDDLE	3-11 cm	FIX #10	181.7	2.06	0.8
L34197	GC272	92081780GC	MP-9	BOTTOM	11-25 cm	FIX #10	59448.3	967.53	0.94
L34198	GC272	92081780GC	MP-10	TOP	0-3 cm	FIX #10	60.1	0.94	1.09
L34199	GC272	92081780GC	MP-10	MIDDLE	3-11 cm	FIX #10	234	2.71	0.64
L34200	GC272	92081780GC	MP-10	BOTTOM	11-25 cm	FIX #10	29334.5	1192.87	0.59
L34201	GC272	92081780GC	MP-11	TOP	0-3 cm	FIX #10	470.5	7.24	5.76
L34202	GC272	92081780GC	MP-11	MIDDLE	3-11 cm	FIX #10	957.7	13.8	0.79

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	SAMPLE	CORE	SECTION	DEPTH	FIX	METHANE (ppm)	ETHANE (ppm)	ETHYLENE (ppm)
L34203	GC272	92081780GC	MP-11	BOTTOM	11-25 cm	FIX #10	28065.2	728.21	0.36
L34234	GC272	92081779GC	RED	TOP	0-3 cm	FIX #8	55.3	2.38	1.64
L34235	GC272	92081779GC	RED	MIDDLE	3-13 cm	FIX #8	78	1.2	0.04
L34236	GC272	92081779GC	RED	BOTTOM	>13 cm	FIX #8	272.7	6.17	0.63
L34237	GC272	92081779GC	W/T	TOP	0-3 cm	FIX #8	62.7	3.04	1.91
L34238	GC272	92081779GC	W/T	MIDDLE	3-13 cm	FIX #8	97.1	1.43	0.05
L34239	GC272	92081779GC	W/T	BOTTOM	13-17	FIX #8	292.6	6.64	0.85

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	PROPANE (ppm)	PROPYLENE (ppm)	i-BUTANE (ppm)	n-BUTANE (ppm)	TOTAL C1 - C4 (ppm)	DEL 13-C METHANE (ppt)
L34225	GB386	0.56	1.19	0.25	0.22	37.7	
L34226	GB386	0.18	0.13	0.06	0.05	40.4	
L34227	GB386	0.61	0.5	0.14	0.15	207.8	
L34228	GB386	0.17	0.28	0.1	0	23.8	
L34229	GB386	0.16	0.3	0.09	0.05	21.4	
L34230	GB386	0.11	0.22	0.04	0.03	14.7	
L34231	GB386	0.2	0.37	0.05	0.04	24.4	
L34232	GB386	0.06	0.1	0.02	0.02	15.5	
L34233	GB386	0.06	0.14	0.04	0.03	13.4	
L34113	GC184	1.18	1.16	1.11	0.47	107.4	
L34114	GC184	1.6	1.11	0.77	0.59	152	
L34115	GC184	3.91	3.99	3.17	1.57	223.1	
L34116	GC184	1.46	1.73	0.98	0.42	272.2	
L34117	GC184	2.42	1.87	1.44	0.58	364	
L34118	GC184	2.19	1.43	1.07	0.66	398.6	
L34119	GC184	2.71	3.82	1.52	1.27	197.4	
L34120	GC184	3.22	2.09	0.92	1.06	307.8	
L34121	GC184	1.89	1.64	1.44	0.69	529.8	
L34122	GC184	1.63	1.76	1.07	0.51	133	
L34123	GC184	3.63	5.75	3.39	1.41	381.1	
L34124	GC184	1.05	0.73	0.83	0.3	571.2	
L34125	GC184	4.39	4.27	2.43	1.31	1093.7	
L34126	GC184	6.77	1.76	1.26	2.15	12223.5	
L34127	GC184	1.86	3.34	1.62	0.52	375.3	
L34128	GC184	1.8	1.72	0.87	0.61	615.6	
L34129	GC184	2.27	2.78	2.8	1.38	902	
L34130	GC184	1.58	0.95	0.99	0.7	898	
L34131	GC184	3.79	3.77	2.6	1.13	1125.2	
L34132	GC184	3.54	2.07	2.63	1.47	2864.3	
L34133	GC184	1.29	0.83	1.1	0.41	2311.8	
L34134	GC184	1.91	1.65	1.13	0.67	651.4	
L34135	GC184	1.34	2.17	1.31	0.59	259	

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	PROPANE (ppm)	PROPYLENE (ppm)	i-BUTANE (ppm)	n-BUTANE (ppm)	TOTAL C1 - C4 (ppm)	DEL 13-C METHANE (ppt)
L34136	GC184	1.25	0.96	0.42	0.42	311.9	
L34137	GC184	2.98	5.2	2.34	1.17	189.9	
L34138	GC184	1.45	1.19	0.36	0.95	358.4	
L34139	GC184	1.98	3.68	1.33	0.64	196.3	
L34140	GC184	1.27	1.3	0.47	0.42	587.9	
L34217	GC184	0.48	0.7	0.41	0.16	147.9	
L34218	GC184	0.07	0.05	0.06	0.01	77.2	
L34219	GC184	1.13	0.79	0.44	0.28	3572.9	
L34220	GC184	0.22	0.08	0.06	0.05	1254.6	-28.6
L34221	GC184	0.62	0.73	0.17	0.19	977.1	
L34222	GC184	2.56	3.18	0.5	0.74	223.8	
L34223	GC184	0.09	0.04	0.01	0.02	164.4	
L34224	GC184	0.27	0.04	0.03	0	146.8	
L34083	GC234	0.41	0.6	1.39	0.13	76.2	
L34084	GC234	0.72	1.64	5.13	0.53	133.8	
L34085	GC234	1.65	2.99	3.99	0.5	1016.4	
L34086	GC234	0.73	1.66	3.74	0.25	370.3	
L34087	GC234	0.94	1.08	2.22	0.2	58.5	
L34088	GC234	1.6	3.84	21.84	0	504.7	
L34089	GC234	0.5	0.44	1.12	0.18	32.6	
L34090	GC234	0.32	0.45	2.2	0.2	38.8	
L34091	GC234	0.36	0.66	1.42	0.18	346.3	
L34092	GC234	0.52	1.33	1.82	0.11	967.3	
L34093	GC234	1.06	1.21	1.89	0.12	1789.2	
L34094	GC234	0.96	1.21	3.11	0.32	478	
L34095	GC234	0.33	0.67	1.9	0.14	50.3	
L34096	GC234	0.4	0.97	1.69	0.11	81.7	
L34097	GC234	0.28	0.46	1.71	0.06	105.5	
L34098	GC234	0.19	0.2	1.99	0.07	247.3	
L34099	GC234	4.53	1.67	8.42	0.39	37581.6	
L34100	GC234	16.41	0.58	14.33	0.56	33582.1	
L34101	GC234	0.62	0.55	2.05	0.08	4957.4	

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	PROPANE (ppm)	PROPYLENE (ppm)	i-BUTANE (ppm)	n-BUTANE (ppm)	TOTAL C1 - C4 (ppm)	DEL 13-C METHANE (ppt)
L34102	GC234	0.45	0.71	2.3	0.06	1272.5	
L34103	GC234	0.42	1.19	2.41	0.06	376	
L34104	GC234	0.55	1.04	2.83	0.3	117.2	
L34105	GC234	3.15	0.6	4.75	0.2	21035.2	
L34106	GC234	0.42	0.63	3.13	0.13	1533.8	
L34107	GC234	0.68	1.14	3.01	0.2	84.6	
L34108	GC234	0.65	1.16	3.29	0.24	82.7	
L34109	GC234	0.41	0.8	1.32	0.09	95.2	
L34110	GC234	1.36	1	2.8	0.08	137.9	
L34111	GC234	0.52	1.21	1.84	0.1	50.6	
L34112	GC234	0.76	1.23	2.42	0.23	64.7	
L34204	GC234	0.17	0.16	0.51	0.05	68.9	
L34205	GC234	0.06	0.03	0.22	0.01	70.7	
L34206	GC234	0.32	0.7	1.2	0.11	52.3	
L34207	GC234	0.4	0.12	0.54	0.03	3446.9	
L34208	GC234	0.18	0.16	0.45	0.02	1275.1	
L34209	GC234	0.27	0.29	0.45	0.08	61.6	
L34210	GC234	0.28	0.26	0.54	0.12	48.9	
L34211	GC234	1.02	0.34	3.58	0.05	21689.4	-29
L34212	GC234	2.51	0.05	4.33	0.05	18358.7	-43.7
L34213	GC234	0.93	0.15	0.25	0.02	6679.9	
L34214	GC234	3.9	0.32	33.1	0.18	33835.2	
L34215	GC234	0.39	0	0.45	0	12606.7	-53.9
L34216	GC234	3.05	0.17	1.07	0.05	9412.9	
L34243	GC234	1.3	1.88	0.41	0.29	59.7	
L34244	GC234	0.71	0.51	0.22	0.21	68	
L34245	GC234	1.04	1.27	0.49	0.51	37.3	
L34246	GC234	1.41	0.72	1.44	2.22	407.9	
L34247	GC234	1.3	0.7	1.14	0.29	681	
L34248	GC234	0.99	0.37	0.73	0.23	1692.8	
L34249	GC234	0.68	1.44	0.22	0.3	54.6	
L34250	GC234	0.88	1.04	0.32	0.34	119.5	

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	PROPANE (ppm)	PROPYLENE (ppm)	i-BUTANE (ppm)	n-BUTANE (ppm)	TOTAL C1 - C4 (ppm)	DEL 13-C METHANE (ppt)
L34251	GC234	1.56	1.43	1	0.36	2124	
L34252	GC234	0.95	1.25	0.59	0.39	718.2	
L34141	GC272	0.72	0.35	0.29	0.59	53.4	
L34142	GC272	1.76	0.37	0.25	0.55	90.8	
L34143	GC272	5.56	0.86	0.91	2.53	8799.2	
L34144	GC272	1.19	0.34	0.77	7.66	51.8	
L34145	GC272	0.74	0.29	0.25	0.51	33	
L34146	GC272	0.43	0.13	0.09	0.1	34.5	
L34147	GC272	2.07	0.95	0.83	1.34	114.3	
L34148	GC272	2.01	0.68	0.5	1.08	158.3	
L34149	GC272	2.31	0.95	0.43	1.28	477.5	
L34150	GC272	0.78	0.54	0.28	0.39	73.8	
L34151	GC272	0.76	0.51	0.17	0.31	51.4	
L34152	GC272	1	0.31	0.15	0.37	166.5	
L34153	GC272	4.01	1.16	0.55	1.2	171.8	
L34154	GC272	1.68	0.61	0.25	0.74	113.2	
L34155	GC272	1.89	0.72	0.5	0.81	508.9	
L34156	GC272	4.63	1.36	0.84	3.13	145.2	
L34157	GC272	0.89	0.27	0.19	0.38	47.8	
L34158	GC272	1.26	0.11	0.25	0.58	179.5	
L34159	GC272	1.35	0.77	0.33	0.74	71.1	
L34160	GC272	4.01	1	0.53	2.51	243	
L34161	GC272	2.35	1.03	0.47	1.1	379.7	
L34162	GC272	2.51	1.66	0.54	2.07	107.3	
L34163	GC272	1.14	0.35	0.28	0.77	68.1	
L34164	GC272	1.19	0.5	0.28	0.64	147.1	
L34165	GC272	1.77	1.41	0.92	1.22	239	
L34166	GC272	1.14	0.49	0.37	0.54	126.3	
L34167	GC272	1.62	0.71	0.36	1.05	303.2	
L34168	GC272	2.97	1.85	0.92	1.66	198.6	
L34169	GC272	9.68	2.47	0.66	4.15	601.8	
L34170	GC272	1.83	0.63	0.36	0.75	286	

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	PROPANE (ppm)	PROPYLENE (ppm)	i-BUTANE (ppm)	n-BUTANE (ppm)	TOTAL C1 - C4 (ppm)	DEL 13-C METHANE (ppt)
L34171	GC272	1.14	0.67	0.29	1.01	58.4	
L34172	GC272	1.14	0.39	0.25	0.5	94.3	
L34173	GC272	1.66	0.44	0.3	0.66	381.1	
L34174	GC272	1.22	1.05	0.41	0.27	129.1	
L34175	GC272	0.37	0.44	0.13	0.13	184.7	
L34176	GC272	14.25	0.3	13.37	0.18	15960.2	
L34177	GC272	1.21	0.73	0.46	0.3	152.1	
L34178	GC272	2.19	0.53	1.09	0.31	14307.3	
L34179	GC272	236.82	1.13	622.14	108.37	163597.8	-48.1
L34180	GC272	2.9	1.77	1.02	1.11	227.1	
L34181	GC272	2	1.31	1.03	0.73	372	
L34182	GC272	21.39	0.26	104.19	1	33454.2	
L34183	GC272	2.23	0.97	0.92	0.97	116.3	
L34184	GC272	0.48	0.23	0.17	0.09	191.5	
L34185	GC272	24.47	0.18	13.77	0.39	26722.4	
L34186	GC272	308.93	2.52	231.48	57.69	59937	
L34187	GC272	577.05	0	361.15	95.94	63051.9	
L34188	GC272	553.11	0.61	631.91	195.78	38783	
L34189	GC272	39.82	1.61	1.38	1.11	277.4	
L34190	GC272	1.29	0.53	0.64	0.51	613.4	
L34191	GC272	16.87	0.18	34.98	2.27	46430.7	
L34192	GC272	0.59	0.44	0.42	0.26	39.6	
L34193	GC272	31.9	0.23	20	0.6	29554.6	
L34194	GC272	28.42	0.28	17.84	0.8	30612.2	
L34195	GC272	0.77	0.57	0.63	0.21	93.7	
L34196	GC272	0.88	0.47	0.38	0.2	186.5	
L34197	GC272	56.23	0.59	37.99	0.21	60511.8	-55.7
L34198	GC272	0.93	0.53	0.47	0.18	64.2	
L34199	GC272	0.81	0.35	0.45	0.19	239.2	
L34200	GC272	39.23	0.3	185.08	0.8	30753.4	
L34201	GC272	4.31	3.26	2.68	1.16	494.9	
L34202	GC272	0.86	0.42	0.55	0.3	974.5	

1992 Core Samples - Headspace

FILE NUMBER	LEASE BLOCK	PROPANE (ppm)	PROPYLENE (ppm)	i-BUTANE (ppm)	n-BUTANE (ppm)	TOTAL C1 - C4 (ppm)	DEL 13-C METHANE (ppt)
L34203	GC272	50.8	0.41	131.23	0.3	28976.5	
L34234	GC272	1.32	0.77	0.25	0.54	62.2	
L34235	GC272	0.33	0.01	0.05	0.09	79.7	
L34236	GC272	1.02	0.31	0.2	0.34	281.4	
L34237	GC272	1.84	0.93	0.35	0.85	71.6	
L34238	GC272	0.41	0.02	0.08	0.15	99.2	
L34239	GC272	1.67	0.49	0.28	0.63	303.2	

1991 Pore Water H2S Analyses

FILE #	DATE/LOCATION	CORE NUMBER	CONCENTRATION *
C3653	910915BH2029	01	43.44
C3654	910915BH1130	01	10.68
C3655	910915BH1130	03	0.00
C3656	910916GB1232	01	0.00
C3657	910917CF0133	01	379.14
C3658	910917CFO434	01	0.00
C3659	910917CFO134	03	26.33
C3660	910918CFO335	01	45.28
C3661	910918CF9036	02	424.88
C3662	910918CF0536	03	10.56
C3663	910919CF0838	01	56.11
C3664	910919CF0838	02	37.83
C3665	910918CF9036	04	20.48
C3666	910921BH2039	01	0.00
C3667	910922BH2040	01	0.00
C3668	910922BH2041	01	0.00
C3669	910921BH0339	02	NS
C3670	910923GC0243	02	0.00
C3671	910923GC0243	03	0.00
C3672	910924GC9844	01	0.00
C3673	910924GC9844	02	0.00
C3674	910923GC0142	04	NS
	Microsamples		
C3675	910916GB1232	**	0.00
C3679	910919CF0837	**	0.00
C3682	910923GC0142	**	NS
C3684	910922BH2040	**	0.00
C3685	910922BH2040	**	0.00
C3686	910923GC0243	**	0.00
C3688	910923GC0243	**	0.00
C3691	910923GC0143	**	0.00
C3692	910923GC9844	**	0.00
C3694	910924BP0045	**	0.00
C3695	910924BP0045	**	0.00
C3699	910915BH1130	**	0.00
C3700	910915BH1130	**	0.00

* micrograms-atoms/litre=micromol/litre

1991 Pore Water and Microsamples. Salinity, $\delta^{13}C$, and TCO_2

SAMPLE ID	DATE	LOCATION	SALINITY	$\delta^{13}C$	TOTAL CO_2
		Pore Water			
C3653	910915	BH2029	31.2	-18.4	5.26
C3654	910915	BH1130	33.3	-12.9	2.37
C3655	910916	GB1232	35.4	-9.6	2.19
C3656	910917	CFO133	35.2	-39.9	6.39
C3657	910917	CFO434	37.8	-13.5	2.19
C3658	910917	CFO134	30.6	-34.1	2.90
C3659	910918	CF0335	37.3	-39.0	4.28
C3660	910918	CF0536	35.5	-24.6	3.29
C3661	910919	CF0838	34.6	-29.7	3.30
C3662	910919	CFO838	35.4	-31.5	3.88
C3663	910918	CF9036	35.2	-48.9	4.39
C3664	910921	BH2039	34.2	-11.5	1.86
C3665	910921	BH0339	35.8	-17.3	2.76
C3666	910922	BH2040	29.3	-13.0	1.64
C3667	910922	BH2041	32.2	-8.0	2.85
C3668	910923	GC0142	NS	NS	NS
C3669	910923	GC0243	31.3	-17.4	2.56
C3670	910923	GC0243	27.9	-5.7	2.52
C3671	910924	GC9844	30.0	-7.9	1.53
C3672	910924	GC9844	30.4	-4.1	1.97
		Microsamples			
C3676	910918	CF0335	33.2	-20.2	1.10
C3677	910918	CF9036	32.1	NS	1.32
C3678	910918	CF9036	32.9	NS	1.64
C3680	910919	CF0838	33.7	-41.8	1.28
C3681	910919	CF0838	22.4	NS	1.15
C3683	910922	BH2041	23.6	NS	1.28
C3687	910923	GC0243	31.3	-8.6	7.78
C3689	910923	GC0243	30.3	-7.8	4.58
C3690	910923	GC0142	27.5	-10.9	11.21
C3693	910923	GC9844	41.1	-4.1	1.32

Isotope ratios reported in per mil (‰) relative to PDB.

1991 SEDIMENT ISOTOPIC COMPOSITION
ORGANIC CARBON

FILE #	DATE	LOCATION	CORE#	$\delta^{13}C$
C3483	910915	BH1130	1	-27.1
C3484	910915	BH1130	2	-27.1
C3485	910915	BH1130	3	-26.3
C3486	910915	BH1130	4	-26.3
C3487	910915	BH2029	1	-26.4
C3488	910916	GB1232	1	-25.9
C3489	910917	CF0133	1	-24.5
C3490	910917	CF0434	2	-27.3
C3491	910917	CF0134	1	-26.3
C3492	910917	CF0334	3	-26.6
C3493	910917	CF0335	1	-27.6
C3494	910918	CF0536	1	-26.3
C3495	910918	CF0536	3	-25.1
C3496	910918	CF0839	CAKE#2 4	-28.9
C3497	910918	CF9036	2	-27.5
C3498	910918	CF9036	4	-27.8
C3499	910919	CF0838	2	-27.1
C3500	910921	BH2039	1	-27.9
C3501	910921	BH0339	2	-27.7
C3502	910922	BH2041	4	-27.0
C3503	910922	BH2040	1	-27.7
C3504	910922	BH2040	2	-27.3
C3505	910922	BH2040	3	-27.9
C3506	910923	GC0142	4	-26.6
C3507	910923	GC0243	1	-27.0
C3508	910923	GC0243	2	-26.8
C3509	910923	GC0243	3	-26.9
C3510	910923	GC0243	4	-27.1
C3511	910924	GC9844	2	-24.2
C3512	910924	GC9844	1	-24.6

Isotope ratios reported in per mil (‰) relative to PDB.

1991 Sediment Isotopic Composition. Carbonates

FILE #	DATE	LOCATION	CORE#	$\delta^{13}C$	$\delta^{18}O$
C3501	910921	BH0339	2	-14.4	3.1
C3483	910915	BH1130	1	-14.5	2.3
C3484	910915	BH1130	2	-13.8	1.5
C3485	910915	BH1130	3	-4.3	-1.4
C3486	910915	BH1130	4	-2.6	-1.9
C3487	910915	BH2029	1	-11.5	1.7
C3500	910921	BH2039	1	-20.7	2.3
C3503	910922	BH2040	1	-9.7	2.5
C3504	910922	BH2040	2	-9.6	2.3
C3505	910922	BH2040	3	-11.9	1.8
C3502	910922	BH2041	4	-12.2	0.6
C3489	910917	CF0133	1	-20.1	-0.7
C3491	910917	CF0134	1	-3.2	-4.1
C3492	910917	CF0334	3	-10.2	2.4
C3493	910917	CF0335	1	-10.3	0.1
C3490	910917	CF0434	2	-15.8	-1.3
C3494	910918	CF0536	1	-5.2	-4.9
C3495	910918	CF0536	3	-2.9	-4.1
C3499	910919	CF0838	2	-18.6	0.4
C3496	910918	CF0839	4	-16.3	-0.2
C3497	910918	CF9036	2	-15.7	-1.3
C3498	910918	CF9036	4	-10.2	0.1
C3488	910916	GB1232	1	-20.7	1.6
C3506	910923	GC0142	4	-10.4	0.6
C3507	910923	GC0243	1	-10.6	0.3
C3508	910923	GC0243	2	-15.1	0.8
C3509	910923	GC0243	3	-12.2	1.5
C3510	910923	GC0243	4	-16.5	1.9
C3512	910924	GC9844	1	0.5	-0.9
C3511	910924	GC9844	2	-0.0	-1.1

Isotope ratios reported in per mil (‰) relative to PDB.

1991 Organisms

SAMPLE ID	DATE	SITE	DESCRIPTION	SAMPLE #	$\delta^{13}C$	$\delta^{13}C$
C3519	910919	CF0837	Urchin 1W	2	-20.1	
C3521	910919	CF0837	Star fish	4	-51.5	-48.6
C3522	910919	CF0838	Urchin W	1	-23.8	
C3523	910919	CF0838	Small spine urichin	2	-22.7	
C3526	910919	CF0838	*C.pictus*	5 1	-18.7	
C3530	910919	CF0837	*Escarpia*	1	-35.3	-35.2
C3533	910919	CF0837	*Escarpia*	4	-39.6	
C3547	910919	CF0837	*Escarpia*	18	-39.6	
C3548	910919	CF0837	*Escarpia*	19	-40.1	
C3550	910919	CF0837	*Brachuran*	21	-32.1	
C3551	910919	CF0837	*Brachuran*	22	-25.8	-24.0
C3552	910919	CF0837	*Munidopsis*	23	-29.7	
C3553	910919	CF0837	worm	24	-31.6	
C3554	910919	CF0837	*Caridian*	25	-34.1	
C3555	910919	CF0837	Polychaete 1	26	-32.6	-33.2
C3556	910919	CF0837	Polychaete 2	27	-32.1	
C3557	910919	CF0837	Polychaete 3	28	-47.0	-45.4
C3558	910924	GC9844	*Callogorgia* sp.	1	-34.9	-32.4
C3559	910924	GC9844	*Callogorgia* sp.	2	-17.5	
C3560	910924	GC9844	*Callogorgia* sp.	3	-17.3	
C3561	910924	GC9844	*Callogorgia* sp.	4	-20.1	-20.4
C3562	910924	GC9844	*Callogorgia* sp.	5	-17.3	
C3563	910924	GC9844	*Callogorgia* sp.	6	-18.3	
C3564	910924	GC9844	*Callogorgia* sp.	7	-16.3	
C3565	910924	GC9844	*Callogorgia* sp.	8	-16.3	
C3566	910924	GC9844	*Callogorgia* sp.	9	-14.6	-14.9
C3567	910924	GC9844	*Callogorgia* sp.	10	-16.8	
C3571	910928	GB9949	*Bathymodiolus*	F2 1	-37.4	
C3574	910928	GB9949	*Bathymodiolus*	F3 1	-38.1	
C3577	910928	GB9949	*Bathymodiolus*	F4 1	-37.2	
C3580	910928	GB9949	*Bathymodiolus*	F5 1	-36.2	
C3583	910928	GB9949	*Bathymodiolus*	F6 1	-37.7	
C3587	910928	GB9949	*Acesta bullisi*	F8	-21.1	
C3588	910928	GB9949	*Vesicomija cordata*	F9	-34.1	
C3591	910928	GB9949	4 mussels	F11 2	-34.3	
C3593	910922	BH9941	*Munida* sp.	F1.1	-20.7	-20.9
C3594	910922	BH9941	*Munida* sp.	F1.2	-18.2	-18.1

SAMPLE ID	DATE	SITE	DESCRIPTION	SAMPLE #	$\delta^{13}C$	$\delta^{13}C$
C3595	910922	BH9941	Barnacles	F2	-21.3	
C3596	910922	BH9941	*Rochinia crassa*	F3	-18.4	
C3597	910922	BH9941	gastropod	F4	-19.8	-19.8
C3598	910922	BH9941	c.f. *Callogorgia* sp.	F4	-22.4	-22.4
C3599	910919	CF0837	Seep mytilid la	F21	-60.8	
C3600	910919	CF0837	Seep mytilid la	F22	-61.1	
C3601	910919	CF0837	Seep mytilid la	F23	-61.9	
C3602	910919	CF0837	Seep mytilid la	F24	-58.2	
C3603	910919	CF0837	Seep mytilid la	F25	-60.5	
C3604	910919	CF0837	Seep mytilid la	F26	-57.6	
C3605	910919	CF0837	Seep mytilid la	F27	-58.4	
C3606	910919	CF0837	Seep mytilid la	F28	-62.2	-63.4
C3607	910919	CF0837	Seep mytilid la	F29	-55.2	-57.3
C3608	910919	CF0837	Seep mytilid la	F30	-62.2	-59.5
C3609	910919	CF0837	Seep mytilid la	F31	-55.6	-53.9
C3610	910919	CF0837	Seep mytilid la	F32	-60.8	
C3611	910919	CF0837	Seep mytilid la	F33	-60.3	
C3612	910919	CF0837	Seep mytilid la	F34	-60.5	-60.7
C3613	910919	CF0837	Seep mytilid la	F35	-63.0	
C3614	910919	CF0837	Seep mytilid la	F36	-62.1	-60.2
C3615	910919	CF0837	Seep mytilid la	F37	-59.7	
C3616	910919	CF0837	Seep mytilid la	F38	-57.2	
C3617	910919	CF0837	Seep mytilid la	F39	-59.0	
C3618	910919	CF0837	Seep mytilid la	F40	-56.0	-55.7
C3619	911004	BH03xx	*Geryon* sp.	F1	-19.4	
C3620	911004	BH03xx	*Geryon* sp.	F2	-17.4	-16.5
C3621	911004	BH03xx	*Geryon* sp.	F3	-19.9	
C3622	911004	BH03xx	*Geryon* sp.	F4	-20.4	
C3623	911004	BH03xx	*Geryon* sp.	F5	-23.6	-24.5
C3624	911004	BH03xx	Isopod	F6	-16.3	-16.7
C3625	911004	BH03xx	Isopod	F7	-18.1	-17.9
C3626	911004	BH03xx	scorpaenid	F8	-21.5	
C3627	911004	BH03xx	Urophysis	F9	-16.0	-16.4
C3628	910928	GB9949	Lamellibrachia	F13	-25.9	
C3629	910928	GB9949	Lamellibrachia	F14	-23.1	
C3631	910924	BP0045	Seep mytilid la	F1	-62.9	
C3632	910924	BP0045	Seep mytilid la	F2	-66.1	
C3633	910924	BP0045	Seep mytilid la	F3	-62.5	
C3634	910924	BP0045	Seep mytilid la	F4	-63.9	

SAMPLE ID	DATE	SITE	DESCRIPTION	SAMPLE #	$\delta^{13}C$	$\delta^{13}C$
C3635	910924	BP0045	Seep mytilid la	F5	-65.9	-66.0
C3636	910924	BP0045	Seep mytilid la	F6	-61.2	
C3637	910924	BP0045	Seep mytilid la	F7	-63.9	
C3638	910924	BP0045	Seep mytilid la	F8	-63.3	-63.2
C3639	910924	BP0045	Seep mytilid la	F9	-63.4	
C3640	910924	BP0045	Seep mytilid la	F10	-63.1	
C3641	910924	BP0045	Seep mytilid la	F11	-64.8	
C3642	910924	BP0045	Seep mytilid la	F12	-64.0	
C3643	910924	BP0045	Seep mytilid la	F13	-63.8	
C3644	910924	BP0045	Seep mytilid la	F14	-64.2	
C3645	910924	BP0045	Seep mytilid la	F15	-62.0	
C3646	910924	BP0045	Seep mytilid la	F16	-61.9	
C3647	910924	BP0045	Seep mytilid la	F17	-65.3	
C3648	910924	BP0045	Seep mytilid la	F18	-63.6	-63.3
C3649	910924	BP0045	Seep mytilid la	F19	-62.2	
C3650	910924	BP0045	Seep mytilid la	F20	-62.0	-62.5
C3651	910924	BP0045	Lamellibrachia	F21.1	-23.6	
C3652	910924	BP0045	Acesta	F21.2	-24.7	-24.5
C3699	911004	BH03xx		F8	-21.9	-21.9
C3700	910922	BH9941	Ophiuroid	F6	-19.0	
C3701	910922	BH9941	Lamellibrachia	F9.1	-20.2	
C3702	910922	BH9941	Lamellibrachia	F9.2	-19.5	
C3703	910922	BH9941	Lamellibrachia	F10.1	-22.1	
C3705	910922	BH9941	Lamellibrachia	F10.3	-23.1	
C3706	910922	BH9941		F11. 1	-22.4	
C3707	910922	BH9941	Lamellibrachia	F11.2	-20.3	
C3708	911909	CF0237		F2	-16.8	

1992 PORE WATER H_2S ANALYSES

FILE #	DATE	DIVE	POSITION	COMMENT	CONCENTRATION*
L35249	920817	80GC	MP1 TOP	FIX 10	0.00
L35250	920817	80GC	MP2 TOP	FIX 10	0.00
L35251	920817	80GC	MP3 TOP	FIX 10	0.00
L35252	920817	80GC	MP4 TOP	FIX 10	0.00
L35253	920817	80GC	MP5 TOP	FIX 10	0.00
L35254	920817	80GC	MP6 TOP	FIX 10	0.00
L35255	920817	80GC	MP8 TOP	FIX 10	0.00
L35256	920817	80GC	MP9 TOP	FIX 10	0.00
L35257	920817	80GC	MP10 TOP	FIX 10	0.00
L35258	920817	80GC	MP11 TOP	FIX 10	0.00
L35259	920817	80GC	MP12 TOP	FIX 10	0.00
L35260	920817	80GC	MP13 TOP	FIX 10	0.00
L35261	920817	80GC	MP14 TOP	FIX 10	0.00
L35262	920822	87BH		FIX 6	0.00
L35765	920817	79GC	MP1 TOP	FIX 8	0.00
L35766	920817	79GC	MP2 TOP	FIX 8	0.00
L35767	920817	79GC	MP3 TOP	FIX 8	0.00
L35768	920817	79GC	MP5 TOP	FIX 8	0.00
L35769	920817	79GC	MP6 TOP	FIX 8	0.00
L35770	920817	79GC	MP7 TOP	FIX 8	0.00
L35771	920817	79GC	MP8 TOP	FIX 8	0.00
L35772	920817	79GC	MP9 TOP	FIX 8	0.00
L35773	920817	79GC	MP10 TOP	FIX 8	0.00
L35774	920817	79GC	MP11 TOP	FIX 8	0.00
L35775	920817	79GC	MP12 TOP	FIX 8	0.00

* micrograms-atoms/litre=micromol/litre

1992 Organisms

SAMPLE ID	DATE	SITE	DESCRIPTION	COMMENT	$\delta^{13}C$
L35001	920806	61VK	Shells	S1	NS
L35002	920806	62VK	Coral	F11	-13.0
L35003	920806	62VK	Algae (Red)	8.1	-17.9
L35004	920806	61VK01	Tube worm		-31.8
L35005	920806	61VK01	Tube worm	F1.3	-31.5
L35006	920806	62VK95	*Galathea*	F7.2	-17.9
L35007	920806	62vk96		S2	NS
L35008	920806	62vk02		S3	NS
L35009	920806	62VK90		F6.2	-35.1
L35010	920806	62VK96		F6.1	-31.3
L35011	920806	62VK02		F10.1	-24.9
L35012	920806	62VK95	Crab	F9	-18.1
L35013	920806	62VK02	Lamellibrachia	F10.2	-26.0
L35014	920806	61VK01	Echinoidea	F3	-16.1
L35015	920806	61VK01	Lamellibrachia	F1.2	-31.0
L35016	920806	62VK95	*Galathea*	F7.1	-17.9
L35017	920806	61VK91	Coral	F4.1 & F4.2	-13.5
L35018	920806	61VK01	F5	F5	-30.7
L35019	920806	61VK01	Lamellibrachia	F1.1	-30.9
L35020	920806	61VK01	Crab	F2	-18.2
L35021	920809	67GC	Coral	JSL3767 1	-14.7
L35022	920809	67GC	Ophiuroidea	JSL3267 1 & 2	-14.5
L35023	920811	70BH	Crab		-29.6
L35024	920812	71BH	Coral		-16.4
L35025	920812	71BH	Ophiuroidea		-11.8
L35026	920812	71BH	*Nerite*		-12.6
L35027	920812	71BH	Shrimp		-32.1
L35028	920812	71GH	*Galathea* (Crab)		-32.2
L35029	920812	71BH	Polychaeta		-21.7
L35030	920813	75BP	*Nezumia* (Fish)		-40.2
L35031	920813	75BP	*Nezumia* (Fish)	FIN	-39.1
L35032	920813	75BP	*Nezumia* (Fish)	MUSCLE	-40.7
L35033	920820	81GC02	Echinoid		-39.7
L35037	920823	89BH	*Bathymodiolus*	#5	-16.7
L35038	920823	89BH	Fish 1	FLESH	-16.6
L35039	920823	89BH	Fish 2	FLESH	-16.8
L35040	920823	89BH	Fish 4	FLESH	-16.9
L35041	920823	89BH	Fish 5	FLESH	-16.7
L35042	920823	89BH	*Bathymodiolus*	7	-16.9
L35043	920823	89BH	*Bathymodiolus*	6	-15.5
L35044	920823	89BH	*Bathymodiolus*	2	-15.1
L35045	920823	89BH	*Bathymodiolus*	4	-16.5
L35046	920823	89BH	*Bathymodiolus*	3	-16.6
L35047	920823	89BH	*Bathymodiolus*	1	-16.0
L35048			*Escarpia*	JSL3767 2	-18.7
L35049		2535	Sponge	CARNEY	-17.7
L35050		2537	*Munidopsis subsquamosa*	MUSCLE	-37.6
L35051		2539	*Benthodites typica*	CARNEY	-18.0
L35052		2539	Anemone off Tubeworm	CARNEY	-24.1
L35053		2539	Seep Fish Muscle	CARNEY	-35.1
L35054		2539	Bernacle off Tubeworm	CARNEY	-26.2

1992-93 HEADSPACE-METHANE

FILE #	$\delta^{13}C$	YEAR
L34220	-28.6	1992
L34179	-48.7	1992
L34211	-29.0	1992
L34223	NS	1992
L34187	NS	1992
L34100	-52.3	1992
L34215	-53.9	1992
L34197	-55.7	1992
L34212	-43.6	1992
White mat		
000-010	-50.1	1993
010-020	-38.9	1993
Orange mat	-52.6	1993

Isotope ratios reported in per mil (‰) relative to PDB.

Appendix C

Water Data

1992 Water Samples

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	N2	CH4	CO
8/9/92	3266	GC01, near	1	10 cm interstit	in mussel bed near marker J.	3:30	3.6		0.639	0.017	0.000
		J marker (GC234)	2	10 cm interstit	Lots of rocks, poor penetration	3:52	3.8		0.634	0.019	0.000
			3	10 cm interstit	2ft from float (brown mussels)	4:18	3.7		0.611	0.049	0.000
			4	10 cm interstit	sim to #3	4:42	3.7		0.589	0.044	0.000
			5	5cm interstit	Just between mussels, no pen.	5:54	3.7		0.646	0.000	0.000
			6	5cm interstit	sim to #5	6:20	3.7		0.661	0.000	0.000
			7	5cm interstit	adjacent to float; good 5cm pen	4:59	3.6		0.594	0.018	0.000
			8	5cm interstit	sim to #7	5:23	3.7		0.581	0.016	0.000
8/11/92	3270	Bush Hill	7	10 cm interstit	base of tw bush w/banded worms, float at base. Beside banded worms.	0:44	3.8	2.127	0.546	0.089	0.000
			8	10 cm interstit	Not in sed; among banded worms	1:43	3.7	2.375	0.449	0.000	0.000
			6	5cm interstit	interstit; N of bed	4:16	3.7	3.059	0.686	0.054	0.000
			1	10 cm interstit	ctr of marked musselbed SW of float; sulfide smell.	1:21	3.8	2.439	0.832	0.000	0.000
			2	10 cm interstit	5" away from #1	2:49	3.8	2.456	0.510	0.011	0.000
		HORIZONTAL GRADIENT	3	10 cm interstit	sed at base of float; mussels west of this float	3:13	3.8	2.387	0.459	0.011	0.000
		MAPPING	4	5cm interstit	west periphery of bed of #3	3:34	3.7	2.392	0.592	0.000	0.000
		!!!!!!!!!!!!!!!!!!!!!!	5	5cm interstit	center of bed of #3	3:57	3.7	2.340	0.558	0.000	0.000
8/12/92	3271	Bush Hill (GC148)	1	10 cm interstit	5-10' from large tw bush; thru white mat	1:26	3.7	2.283	0.517	0.000	0.000
			2	5cm interstit	15cm from #1; thru mat	1:34	3.7	2.606	1.017	0.013	0.000
8/13/92	3273	Brine Pool (GC 233)	1	10 cm interstit	in shaggy mussels; approx 1M from inner edge of bed toward brine.	2:31	8.0	5.053	0.466	5.015	0.000
			2	10 cm interstit	Sim to #1	3:00	8.0	4.691	0.153	4.582	0.000
			3	5cm interstit	Near #1	3:28	4.4	2.439	0.448	1.309	0.000
			4	5cm interstit	Near #1	3:53	4.2	2.499	0.423	1.004	0.000
			5	10 cm interstit	In mussels; approx 1M from	3:32	4.3	3.265	0.746	1.137	0.000

1992 Water Samples

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	N2	CH4	CO
					outer edge of bed away from brine.						
			6	10 cm interstit	Near #5	3:58	4.3	2.817	0.496	1.079	0.000
			7	5cm interstit	Near #5	4:19	3.8	2.383	0.537	0.592	0.000
			8	5cm interstit	Near #5	4:44	4.0	2.346	0.546	0.501	0.000
					Mezumia fish blood			8.769	0.995	0.000	0.000
8/14/92	3274	Bush Hill	1	10 cm interstit	Tagged TW bush adjacent to bucket 2	2:00	3.7	2.319	0.520	0.121	0.000
			2	10 cm interstit	20 cm from #1	2:22	3.7	2.235	0.624	0.072	0.000
			3	5cm interstit	Near #1	2:45	3.7	2.246	0.567	0.000	0.000
			4	5cm interstit	Near #1	3:40	3.7	2.168	0.638	0.000	0.000
			5		Among TW's, above sediment	3:13	3.6	2.245	0.519	0.000	0.000
			6		Sim to #5	4:01	3.8	1.941	0.505	0.000	0.000
8/14/92	3275	Bush Hill	1	10 cm interstit	Resting on surface of hydrate	2:46	3.7		0.589	9.477	0.000
			2	10 cm interstit	Sim to #1	3:16	3.6		0.732	12.146	0.000
			3	5cm interstit	Sim to #1	5:19	3.7	17.282	0.723	11.104	0.000
			5	5cm interstit	Near bush with red 15 & green 11; approx 30 cm from base of bush	2:20	3.8	2.578	0.277	2.846	0.000
			6	5cm interstit	sim to #5	2:47		2.506	0.328	2.507	0.000
			7	10 cm interstit	Near #5	3:04	3.7	3.271	0.422	0.539	0.000
			8	10 cm interstit	Near #5	3:31	3.7	3.090	0.439	0.404	0.000
8/15/92	3276	GC 272	1	5cm interstit	Near BIG Vesicomya chordata, just behind it in its trail	2:05	3.7	3.089	0.581	0.471	0.000
			2	5cm interstit	In front of clam of #1	2:32	3.7	3.043	0.572	0.453	0.000
			3	5cm interstit	In trail of smaller Vesicomya	2:42	3.6	2.553	0.511	0.239	0.000
			4	10 cm interstit	In corral #5 near pushcores.	2:38	4.0	2.701	0.528	0.110	0.000
			5	10 cm interstit	Sim to #4; a better sample	2:56	4.0	2.670	0.502	0.082	0.000
					Vesicomyid blood:VC			3.191	0.502	0.000	0.000
					VC			3.249	0.488	0.000	0.000

1992 Water Samples

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	N2	CH4	CO
					VC			2.621	0.486	0.000	0.000
					CP			2.729	0.503	0.000	0.000
					CP			3.388	0.527	0.000	0.000
					CP			4.359	0.575	0.000	0.000
8/15/92	3277	GC 272	1	5cm interstit	In mussel mat at deployment site	2:00	3.6	2.605	0.613	0.038	0.000
			2	5cm interstit	20 cm from #1	2:30	3.7	2.608	0.640	0.154	0.000
			3	10 cm interstit	20 cm from #1 & #2	3:00	3.6	2.454	0.709	0.030	0.000
			4	10 cm interstit	sim to #3	3:30	3.6	2.512	0.603	0.897	0.000
8/16/92	3278	GC386	1	10 cm interstit	Seep site on a gradient. Sm patch of tw's at top & bottom of gradient. Sample at bottom.	1:34	3.9	2.229	0.627	0.000	0.000
			2	10 cm interstit	Sim to #1	2:09	3.8	2.261	0.557	0.000	0.000
8/17/92	3279	GC 272	1	5 cm interstit	site of collection near marker P; in mussel bed	1:00	3.7	2.492	0.647	0.000	0.000
			2	5cm interstit	6" from #1	1:20	3.7	2.521	0.605	0.000	0.000
			3	5 cm interstit	near #2	1:40	3.7	2.371	0.626	0.000	0.000
			4	5cm interstit	Near original site of P.	2:10	3.7	2.580	0.894	1.513	0.000
			5	5cm interstit	Near #4	2:50	3.8	2.344	0.655	0.317	0.000
8/17/93	3280	GC 272	1	10 cm interstit	In brine pool	1:43	24.8	9.664	0.903	16.680	0.000
			2	5cminterstit	In clam frame next to live clams	1:19	3.8	2.154	0.760	0.000	0.000
			3	5cm interstit	In frame next to live clams	1:45	3.8	2.129	0.633	0.000	0.000
			4	5cm interstit	In frame away from live clams	2:29	3.7	2.015	0.567	0.000	0.000
			5	5cm interstit	Sim to #4	2:50	3.7	2.204	0.570	0.000	0.000
8/20/92	3281	GC 234	1	10 cm interstit	Near banded bush at marker 2 2' from bush	1:15	4.2	2.225	0.621	0.111	0.000
			2	10 cm interstit	sim to #1	1:42	4.0	2.266	0.520	0.081	0.000

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	N2	CH4	CO
			3	5cm interstit	Close to base of bush	2:02	3.8	2.295	0.430	0.000	0.000
			4	5cm interstit	sim to #3	2:57	3.8	2.163	0.444	0.000	0.000
8/20/92	3283	GC 234	1	5cm interstit	In ring 1	2:54	3.6	2.586	0.407	0.170	0.000
			2	5cm interstit	sim to #1	5:40	3.7	2.453	0.403	0.069	0.000
			3	5cm interstit	loose penetration in ring #1	3:21	3.7	2.403	0.405	0.034	0.000
			4	10 cm interstit	In bed in ring #1	3:40	3.7	2.651	0.456	1.076	0.000
			5	5cm interstit	In ring #2, among babies	3:38	3.7	2.401	0.418	0.843	0.000
			6	5cm interstit	Sim to #5	4:02	3.7	2.422	0.418	0.949	0.000
			7	5cm interstit	Other side of ring #2	4:44		2.413	0.421	0.082	0.000
8/21/92	3284	GC 234	1	10 cm interstit	At buoy F; near base of tagged tw's	2:50	3.9	2.700	0.546	0.037	0.000
			2	10 cm interstit	sim to #1	3:30	3.5	2.280	0.412	0.000	0.000
			3	5cm interstit	Sim to #1 & #2	4:00		2.318	0.369	0.000	0.000
8/21/92	3285	Brine Pool	1	10 cm interstit	in pool		5.8	2.958	0.185	9.683	0.000
			2	10 cm interstit	in pool, better pen than #1		10.5	8.313	0.445	24.715	0.000
			3	10 cm interstit	in ring #1		6.2	4.421	0.307	10.116	0.000
			4	5 cm interstit	In ring #1		5.4	4.089	0.286	7.930	0.000
			5	5cm interstit	In ring #2		3.8	3.249	0.407	2.020	0.000
			6	5cm interstit	In ring #2		6.5	3.702	0.278	11.432	0.000
			7	5cm interstit	In ring #3 0.5M from edge		4.3	2.461	0.338	5.919	0.000
			8	5cm interstit	In ring #3 0.25 M from edge		5.8	3.231	0.398	12.217	0.000
8/23/92	3288	Bush Hill	1	Surface	Ring #1; surface of mussels	3:32	3.6	2.117	0.638	0.061	0.000
			6	5cm interstit	Under #1, in ring #1	5:22	3.6	2.227	0.522	0.000	0.000
			3	5cm interstit	10" from #1	5:54	3.6	2.058	0.486	0.000	0.000
			4	Surface	Ring #2; surface of mussels	6:11	3.5	2.221	0.520	0.050	0.000
			2	5cm interstit	Ring #2	6:11	3.6	2.357	0.632	0.138	0.000
			5	5cm interstit	In ring #2	5:43	3.5	2.323	0.874	0.044	0.000
			7	10 cm interstit	Base of tw bush banded this dive	2:22	3.7	2.805	1.248	0.227	0.000

1992 Water Samples

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	N2	CH4	CO
			8	10 cm interstit	sim to #7	1:52	3.8	2.432	0.746	0.113	0.000
8/23/92	3289	Bush Hill	1	10 cm interstit	Base of Escarpia cluster near buoy J	1:50	3.7	2.213	1.185	0.064	0.000
			2	10 cm interstit	6" from #1	3:24	3.8	2.292	0.716	0.046	0.000
			3	10 cm interstit	Sim to #1 &2	3:30	3.8	2.368	0.496	0.000	0.000
			4	surface	On top of hydrate mound	1:50	3.7	38.781	8.775	30.736	0.000
			5	surface	Approx 1M from mound	4:55	3.7	15.697	1.470	23.650	0.000

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
	3523	GC234	1	10cm interstit	Among worms banded 6/25 Bush of small ones on rock Bubbles of CH4 seen in situ No penetration Sample taken within bush A few bubbles on barrel of syringe noted before shooting	2:10	3.700	2.648	0.004	0.302	0.958	0.034	0.000	9.050	8.400	0.678-0.684
			2	10 cm interstit	similar to #1	2:25	3.800	2.806	0.000	0.210	0.884	0.030	0.000	8.562		
			3	5 cm interstit	At plumes of TW clump TW's collected from this clump on 6/25/93 Video of water sampling	2:55	3.800	2.236	0.000	0.208	1.334	0.000	0.000	8.485		
			4	5 cm interstit	midway down TW bodies, same clump as #3. In ctr of clump, approx. 50 cm down.	3:20	3.700	2.546	0.004	0.106	0.876	0.000	0.000	8.730		
			5	5 cm interstit	In sed. at base of worms Not a 90 degree entry	3:40	3.800	1.884	0.000	0.222	1.418	0.000	0.000	8.810		
			6	5 cm interstit	In sed. as per syr #5	4:10	3.700	2.346	0.000	0.156	1.038	0.000	0.000	8.950		
			2	NA	Lamellobrachia blood	2-5 hrs from		3.360	0.000	0.100	0.736	0.000	0.000	7.530		
					Lamell. blood	animal collection		3.000	0.000	0.048	0.612	0.000	0.000	7.710		
					Lamell. blood	to analysis		3.520	0.000	0.048	0.524	0.000	0.000	7.640		
					Lamell. blood			3.368	0.000	0.068	0.548	0.000	0.000	7.510		
6/25/93	3524	GC234	1	10 cm interstit	ambiant H20 (from amongTW plumes of banded bush; not in sediments).Bush banded 6/25/93	2:40	3.600	2.620	0.000	0.286	1.668	0.000	0.000	8.823	8.200	0.406-0.469
			2	5 cm interstit	Ambiant H2O from among mussels marked mussel bed D plate of sampler resting on mussels. Sample taken down-slope of marker.	2:30	3.700	2.718	0.000	0.002	0.822	0.072	0.000	8.800		
			3	5cm interstit	Interstit at loc'n of syr #2	3:00	3.800	11.308	6.746	0.000	0.798	10.744	0.000	8.300		
			4	5 cm interstit	interstit 6" from syringe #3	3:30	3.800	9.934	7.956	0.076	0.948	9.466	0.000	8.170		
			5	5 cm interstit	ambiant H2O from among mussels of mussel bed near marker "J"	4:00	3.800	3.076	0.179	0.011	0.630	0.832	0.000	8.380		
			6	5 cm interstit	same location as syr#5, but interstitial.	4:30	3.800	3.960	1.150	0.000	0.724	0.802	0.000	8.450		
6/26/93	3525	GC234	2	10 cm interstit	interstit. at base of banded bush at marker "Z". A few small bubbles in syringe.	2:15	3.800	3.210	0.000	0.522	2.814	0.006	0.000	9.056	8.200	0.438-0.500
			3		ambiant water in plume area	1:50	3.900	2.838	0.000	0.087	0.776	0.000	0.000	8.824		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
					of banded bush at marker "F" marked in 1991. Sampler held just above bands.											
			4	10 cm interstit	interstitial at the base of a banded bush at marker "f". TW's banded this dive.	3:30	3.900	4.216	0.249	0.013	1.485	0.011	0.000	9.295		
			1		Lamellobranchia blood from			4.736	0.000	0.064	0.508	0.000	0.000	7.331		
			2		TW's collected this dive.			4.856	0.000	0.044	0.508	0.000	0.000	7.410		
			3		Precise location unknown.			6.096	0.000	0.016	0.556	0.016	0.000	7.340		
6/26/93	3526	GC234	1		Ambiant H2O from plume height af a marked bush of tw's; marker "Y". Banded this dive.	2:00		2.952	0.000	0.148	0.700	0.000	0.000	8.037	8.200	0.372-0.381
			2		Water from halfway down the tubes of the same bush as syr 1	2:30	3.700	2.552	0.000	0.153	0.598	0.000	0.000	7.980		
			3	10 cm interstit	interstit water from the base of the bush described for syr's 1&2	3:00		3.436	0.100	0.016	1.167	0.020	0.000	9.150		
			4	10 cm interstit	another 10 cm interstit at the base of the bush of syr 1&2; close to #3	3:40	3.800	2.776	0.051	0.000	0.655	0.002	0.000	8.851		
			5		Plume level on Escarpia, 2-3" above mud in small isolated mixed group of TW's (Lam's and Escarp's) approx. 100 feet east of marker "D"	3:35		2.600	0.015	0.005	0.602	0.000	0.000	8.799		
			6		site of syr #5, but just barely above mud.	4:10		2.496	0.000	0.033	0.629	0.000	0.000	8.730		
			7	10 cm interstit	in mud at site of #6&7	4:40	3.900	3.054	0.000	0.058	0.880	0.000	0.000	9.001		
			1		Lamellabranchia blood from area of water samples 5-7			4.662	0.000	0.038	0.596	0.000	0.000	7.300		
			2		Escarpia as #1			3.716	0.000	0.083	0.520	0.000	0.011	7.350		
			3		Escarpia as #1			5.757	0.000	0.015	0.716	0.000	0.000	7.350		
6/27/93	3528	Bush Hill	1		At the level of the top edge of a mussel bed that was collected this dive			3.096	0.000	0.096	0.562	0.044	0.000	7.978	8.200	0.341-0.350
			2	5 cm interstit	Same mussel bed, plate of sampler resting on the top edge o the mussels. Sample			3.183	0.000			0.019	0.000	8.601		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
					collected improperly; gymnastics required to shoot sample preclude taking O2 and N2 seriously, because of abundant possibility of introducing bubbles.											
			3	5 cm interstit	Same as syr #2, and nearby.			3.231	0.000			0.001	0.000	8.300		
	3529	Bush Hill	None													
	3530	Bush Hill	1		Top of worms; Marker "V" banding site, banded this dive.	2:20		2.784	0.000	0.152	0.564	0.000	0.000	7.887	8.300	0.278-0.291
			2		Middle of worms, at same site as #1	4:00		2.722	0.000	0.080	0.258	0.000	0.000	7.870		
			3	10 cm interstit	in the sediments near the sites of syr #1 and 2	4:50		4.950	0.942	0.012	0.644	0.282	0.000	8.320		
			5		Top of worms at Clump 2 by E float. Banded worms collected here this dive. Bubbles in syringe.	5:15		2.828	0.000	0.166	0.660	0.002	0.000	7.976		
			6		1/2 way down worms of syr#5	5:20		2.762	0.000	0.172	0.660	0.000	0.000	7.950		
			7	10 cm interstit	Sediment adjacent to TW clump above	5:20		3.284	0.000	0.140	0.734	0.006	0.000	8.395		
					Blood of collected worms:											
					Lamellobranchia, green 16			4.140	0.032	0.008	0.464	0.084	0.000			
					Escarpia, Mike's "#4" Had 0.160 mM CO, as well!			4.904	0.001	0.012	0.524	0.000	0.160			
					Lamellobranchia, green 14			4.512	0.000	0.012	0.508	0.040	0.000			
					Unmarked worms:											
					Lamellobranchia			4.816	0.016	0.000	0.548	0.000	0.000	7.313		
					Lamellobranchia			3.658	0.000	0.013	0.548	0.000	0.000	7.135		
					Escarpia Had 0.024mM CO as well!			5.068	0.000	0.068	0.764	0.000	0.024	7.297		
6/29/93	3531	Bush Hill	1		Ambiant H2O from tops of mussel gapes of mussels collected this dive at float "B"	3:23		2.706	0.000	0.370	2.126	0.020	0.000	8.558	8.200	0.309-0.319
			2		Similar to #1, 6" away			2.662	0.000	0.034	0.678	0.000	0.000	8.414		
			3		Plate of 5cm interstit resting and pressing slightly on the top of the mussels	3:30		2.468	0.000	0.056	0.678	0.000	0.000	8.285		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
			4		Same as #3 but 6" away	4:15		2.426	0.000	0.038	0.612	0.000	0.000	8.440		
			5		10 cm down the tube of tagged TW bush near float "V"	4:30		2.530	0.000	0.366	1.366	0.004	0.000	7.913		
			6	10 cm interstit	Base of same large bush as syringe #5. Interstit.	5:00		4.140	0.116	0.060	1.988	0.698	0.000	8.819		
			7		OVERFILLED, NOT SHOT. Among the gapes of mussels near "M"									8.250		
			8		Same as 7, but 6" away from it	5:15		2.386	0.000	0.082	0.688	0.000	0.000	8.450		
			9		Same as 7&8	5:15		2.370	0.000	0.040	0.548	0.000	0.000	8.310		
			10	5cm interstit	Plate of 5cm interstit resting on tops of mussels near float M			2.478	0.000	0.068	0.588	0.000	0.000	8.217		
			11	5cminterstit	As 10, but 6" away			2.018	0.000	0.162	0.960	0.000	0.000	8.271		
6/30/93	3532	Bush Hill	1	10 cm interstit	among worms near bucket 2; interstit			2.694	0.000	0.032	0.728	0.022	0.000	8.771	8.300	0.212-0.219
			2		around plumes of white TW's			2.606	0.000	0.188	0.608	0.000	0.000	8.121		
			3		Plumes among bands			2.600	0.000	0.164	0.562	0.000	0.000	7.470		
			4		around banded worms			2.642	0.000	0.162	0.550	0.000	0.000	7.905		
			5	5 cm interstit	sediment around tw's from syr#4			2.898	0.024	0.154	0.742	0.000	0.000	8.373		
			1		Escarpia			4.950	0.015	0.000	1.149	0.012	0.000	7.430		
			2		Escarpia			4.128	0.000	0.012	0.556	0.000	0.028	7.480		
6/30/93	3533	GC272	1		Ambiant water from around TW individuals sticking out of rocks. TW's approx 15cm long. Probe positioned approx 7.5 cm from rock, 1/2 way down tube	7:30		2.390	0.000	0.080	2.188	0.000	0.000	8.988	8.300	0.319-0.328
			2	5 cm interstit	against rock-probe in rock crevasse from which TW is growing	8:00		2.618	0.000	0.000	0.836	0.000	0.000	8.953		
			3		1.5 m @ 345degree heading from C buoy-probe half way into small bush--mixed E&L worms	6:20		2.612	0.000	0.036	1.050	0.000	0.000	8.911		
			4	10 cm interstit	Edge of a bush-estim. inserted 7.5 cm-same bush as #3	7:00		3.008	0.000	0.040	2.006	0.000	0.000	8.874		
			5		Just touching surface of sed. at the edge of a 3 meter wide cluster of clams. Most appear dead. Floater and pinger site.	4:00		2.670	0.000	0.230	0.766	0.000	0.000	8.638		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
			6	5 cm interstit	same site as #5-interstitial	4:40		1.672	0.000	0.166	0.964	0.000	0.000	8.454		
					Calyptogena ponderosa serum			3.384	0.000	0.112	0.612	0.000	0.000	7.139		
					C. ponderosa serum			2.952	0.000	0.044	0.516	0.000	0.000	7.227		
					C. ponderosa serum			2.680	0.000	0.058	0.515	0.000	0.000	7.228		
					C. ponderosa serum			2.908	0.000	0.070	0.565	0.000	0.000	7.240		
6/30/93	3534	GC272	1		Above sediment, among TW's	2:10		2.404	0.000	0.204	0.692	0.000	0.000	7.276	8.300	0.306-0.312
			3	10 cm interstit	In sediment between worms	3:50		4.248	0.080	0.200	1.498	0.002	0.000	6.860		
			4		Among mussels, 2 cm from top of mussels near old marker "P", new marker "W". Bubbles.	4:10		2.732	0.000	0.400	1.584	0.002	0.000	8.340		
			5		Among mussels, 4 cm from top of mussels near site of syr #4	4:30		2.762	0.000	0.068	0.766	0.000	0.000	8.551		
			6	5cm interstit	Near 4-6; estim penetration=7.5 cm below surface of gapes; sampler pushed in HARD	5:05		2.744	0.000	0.104	0.758	0.000	0.006	8.520		
			7	5 cm interstit	As above. Bubbles.	5:30		2.582	0.000	0.612	2.578	0.004	0.000	8.221		
7/1/93	3535	GC272	1		Water near clams. Many broken shells. 280 degree heading, 60 feet from corral #3. 2 clams collected.	3:10		2.832	0.000	0.282	0.894	0.000	0.000	8.174	8.300	0.266-0.272
			2	5cm interstit	5cm interstit in the mud near clam. Approx 3" away from clam	3:50		2.664	0.000	0.240	1.190	0.000	0.000	8.898		
			3		Ambiant water from the middle of a bush on a rock approx 6' away from marker "A"	3:45		2.204	0.000	0.078	1.208	0.000	0.000	8.947		
			4		Base of some worms on this rock	4:10		2.820	0.000	0.046	0.796	0.000	0.000	8.446		
					collected Calyptogena serum			2.780	0.000	0.030	0.552	0.000	0.000			
			2		Lamellobranchia blood			5.674	0.000	0.285	0.521	0.000	0.000	7.382		
			3		L. blood			5.894	0.000	0.016	0.502	0.000	0.000	7.380		
			4		L. blood			4.748	0.000	0.058	0.577	0.000	0.000	7.339		
			1		C. ponderosa serum			2.780	0.000	0.030	0.552	0.000	0.000	7.120		
7/1/93	3536	Brine pool	1		Ring collection-tip on mussel in ring	2:10		2.878	0.000	0.070	0.748	0.270	0.000	8.368	8.300	0.294-0.300
			2	5cm interstit	Ring collection-2.5 cm into mussel layer in ring	2:30		2.872	0.000	0.056	0.678	0.720	0.000	8.254		
			3	5cm interstit	Ring collection-5cm into mussel layer in ring	3:00		2.966	0.000	0.054	0.656	1.278	0.000	8.154		
			4		On edge of hole lef by cage	3:00		2.836	0.000	0.064	0.730	0.050	0.000	8.453		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
			5	5cm interstit	5 cm into mussel layer @ edge of box hole	2:20		6.270	2.304	0.000	0.738	4.702	0.000	7.940		
7/2/93	3537	Brine pool	1		At tops of mussel shells, outer ring collection			2.678	0.020	0.006	0.654	0.064	0.000	8.531	8.300	0.234-0.241
			2	5cm interstit	5cm interstit, same collection		3.800	2.746	0.000	0.048	0.676	0.042	0.000	8.224		
			3	5cm interstit	3cm interstit, same collection		3.700	2.744	0.000	0.058	0.586	0.032	0.000	7.986		
			1		Mussel blood from collection			3.662	0.000	0.004	0.468	0.026	0.000	7.563		
			2		Mussel blood from collection			4.188	0.000	0.010	0.574	0.048	0.000	7.523		
			3		Mussel blood from collection			4.004	0.000	0.004	0.516	0.056	0.000	7.432		
	3538	Brine pool	1		top o de mussel in ring #2	3:00	3.900	2.644	0.000	0.080	0.654	0.020	0.000	7.852	8.300	0.222-0.228
			2	5cm interstit	3-4 cm penetration in ring #2	3:30	4.000	2.774	0.000	0.012	0.610	0.016	0.000	8.320		
			4	5cm interstit	firm 5cm in to the base of the mussels in ring #2	4:00	4.000	2.808	0.000	0.028	0.608	0.206	0.000	7.980		
			5		Top o de musssel, ring #3	3:45	3.900	2.512	0.000	0.078	0.616	0.042	0.000	7.960		
			6	5 cm interstit	3cm in, ring #3	4:15	3.900	2.730	0.000	0.090	0.636	0.024	0.000	7.918		
			7	5 cm interstit	5cm in, ring #3	4:45	6.700	3.936	0.014	0.014	0.252	6.508	0.000	7.326		
			8		4ft. down beach from collection site at float I-at the top of the mussels	4:30	3.900	2.552	0.000	0.062	0.500	0.626	0.000	7.808		
			9		top of the babies at location of syr #8	5:00	4.100	2.766	0.000	0.038	0.526	0.648	0.000	7.733		
			10	5cm interstit	Same area as #9, pushed in just to plate	5:30	9.000	6.338	0.134	0.012	0.266	17.266	0.000	7.125		
					Mussel blood-ring #1			4.296	0.000	0.000	0.465	0.028	0.000	7.276		
					" " " " " " "			4.295	0.000	0.000	0.482	0.045	0.000	7.458		
					Mussel blood-growth #3			4.115	0.000	0.004	0.509	0.079	0.000	7.241		
					" " " " " " " "			4.831	0.000	0.003	0.535	0.017	0.000	7.341		
					Mussel blood-growth #2			3.639	0.000	0.003	0.509	0.101	0.000	7.339		
					" " " " " " " " "			3.666	0.000	0.014	0.548	0.132	0.000	7.331		
7/3/93	3539	Brine pool	1		Top o de mussel near float "E". Some problems with baseline around CO2 this dive; worst cases have been deleted.	2:30	3.800		0.000	0.048	0.652	0.486	0.000	7.665	8.300	0.247-0.256
			2	5cm interstit	3cm into de mussels, near float E	3:00	3.800	2.246	0.000	0.032	0.520	0.112	0.000	7.730		
			3	5cm interstit	5cm into de mussels, near float E	3:30	3.800	2.564	0.000	0.058	0.504	0.158	0.000	7.646		
			4		Near float "F", top o de mussel	4:00	3.700	2.478	0.000	0.134	0.490	0.080	0.000	7.783		
			5	5cm interstit	3cm into de mussels, near float	4:30	3.700	2.258	0.000	0.128	0.500	0.062	0.000	7.820		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
					F											
			6	5cm interstit	5cm into de mussels, near float F	5:30	3.800		0.000	0.110	0.480	0.058	0.000	7.833		
			7		Mud transplant box, sediment/ water interface	4:15	3.800	2.682	0.000	0.166	1.492	0.726	0.000	7.772		
			8	5 cm interstit	5cm interstit near mud transplant	5:00	3.900	3.060	0.000	0.038	0.472	0.042	0.000	8.182		
			10	5cm interstit	2ft into the brine Air contamination, O2&N2 data deleted.	6:00		4.922	0.000			17.602	0.000	7.590		
			1		Mussel blood, animals from near			4.055	0.000	0.018	0.542	0.000	0.000	7.276		
			2		float F			4.064	0.000	0.022	0.685	0.000	0.000	7.458		
			3		Mussel blood, animals from near			4.315	0.000	0.010	0.527	0.015	0.000	7.241		
			4		float E			3.686	0.000	0.011	0.605	0.059	0.000	7.341		
7/3/93	3540	Bush Hill	1		Facing 180 degrees due S near mariker "N" among tubes. In bush.			2.730	0.000	0.076	0.684	0.326	0.000		8.300	0.172-0.181
			2	10 cm interstit	Same location, base of bush, perpendicular to slope. 10cm interstit.			8.774	1.172	0.004	0.530	2.406	0.000			
	3541	Brine pool	1		Top-o-de-mussel approx 6" from marker "B", toward the pool	8:26	3.800	2.746	0.000	0.000	0.350	0.116	0.000	7.973		
			2	5cm interstit	plate on mussels, at base of marker "B"	8:29	4.000	2.910	0.012	0.000	0.296	1.052	0.000	8.236		
			3		1 ft. N of marker "M", 16" from edge of brine, top o de mussel	8:59	3.700	2.626	0.000	0.000	0.322	0.066	0.000	8.568		
			4	5cm interstit	sim to #3, but 5cm interstit approx 6" closer to brine edge	9:03		2.780	0.000	0.000	0.262	0.090	0.000			
			5		Near marker "K", at outer edge of mussel bed, approx 18" from edge	9:30	3.700	2.916	0.000	0.022	0.412	0.022	0.000	8.602		
			6	5cm interstit	As #5, but 5cm interstit.	9:32	6.400	17.212	13.296	0.000	0.192	3.714	0.000	7.503		
7/4/93	3542	Bush Hill	1		At buoy J, banded TW's--1/2 way down the tubes.			2.760	0.000	0.096	0.510	0.070	0.000		8.300	0.209-0.216
			2	10 cm interstit	10cm interstit at base of TW bush of sample #1			4.816	0.000	0.000	0.358	1.392	0.000			
			3		Top-o-de-mussel, 2m N of "B" buoy			2.722	0.000	0.000	0.334	0.220	0.000			

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
			4	10 cm interstit	Plate resting on mussels. Same location as "B" buoy			5.280	0.220	0.000	0.396	0.452	0.000			
7/7/93	3543	GC425	1	5cm interstit	ambiant-taken at "gape level" of deployment site 1 for lander and bags. Site dominated by lucinids; approx density is 10 clams/m2. Some pogos in the area as well; also white bact mats 7.3 degrees C, 1872 ft down.	3:00	4.200	2.676	0.000	0.204	2.646	0.118	0.000		8.300	0.175-0.181
			2	5 cm interstit	Same location as #1, 5cm inter-stit	3:30	4.200	2.342	0.000	0.000	0.154	0.026	0.000	7.700		
			3	10 cm interstit	Same location, 10 cm interstit	3:30	6.700	4.770	0.140	0.114	1.066	1.746	0.000	8.570		
	3544	GC425	1	5cm interstit	Ambiant water 1/2 meter from shell deployment site (#3). Not actually through a mat, but approximately 1ft. away from a white mat. Scattered Lucinids, mostly dead. Bact mats cover approx. 1/5 of area. Shadowy, diffuse. Clam density of approx. 2/sq. meter. Pogo density of approx. 5/sq. meter. No pogos within 1 meter of water sampling site. Sediment fine and flocculent.	3:15	3.600	2.638	0.000	0.204	1.758	0.000	0.000	8.640	8.300	0.194-0.200
			2	5cm interstit	5cm interstit near site of #1	3:45	3.700	2.944	0.000	0.334	2.826	0.016	0.000	8.660		
			3	10 cm interstit	10 cm interstit near site of #1	4:15	3.800	2.832	0.000	0.296	2.312	0.166	0.000	9.390		
			4	5cm interstit	Shell deployment site #4, approx 4ft from shells. Sample from surface of sediment.	4:00	3.600	2.660	0.000	0.064	0.884	0.000	0.000	8.420		
7/8/93	3545	27 31' N 94 46.65' W 190 meters deep outer shelf	1	5cm interstit	Muddy bottom. Crater nearby (CH4 blow?). No bact mats; no chemosynthetic organisms; fine flocculent sediment; some mounds break up the monotony of the surface of the seds.Site #1.	3:00	3.800	2.538	0.000	0.242	0.986	0.000	0.000	8.410	8.500	0.166-0.172
			2	5cm interstitr	near the above.	3:30	3.800	2.508	0.000	0.186	1.326	0.000	0.000	8.480		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
			3	10 cm interstit	near the above.	4:00	3.800	2.680	0.000	0.250	1.428	0.042	0.000	8.150		
7/8/93	3546	same as 3545	1	5cm interstit	Ambiant water from near the shell site #3. Mud bottom; no relief. Mounds approx 10cm high lend evidence for some bioturbation of the seds.	3:15	3.800	3.270	0.000	0.142	0.940	0.000	0.000	8.410	8.500	0.163-0.169
			2	5cm interstit	5cm interstit at the site of #1	3:45	3.800	2.558	0.000	0.054	0.790	0.000	0.000	8.320		
			3	10 cm interstit	10 cm interstit at the site of #1	4:15	3.800	2.344	0.010	0.208	1.422	0.034	0.000	8.970		
			4	5cm interstit	Ambiant water from near shell site #4	4:00	3.800	2.552	0.000	0.038	0.542	0.000	0.000	8.470		
			5	5cm interstit	5cm interstit at the same site as #4	4:30	4.000	2.528	0.000	0.024	0.692	0.000	0.000	8.530		
			6	10 cm interstit	10 cm interstit at the same site as #4	5:00	3.700	2.678	0.000	0.148	1.780	0.038	0.000	8.920		
7/9/93	3547	27 48.13' N 46 30'W 363 m deep outer shelf	1	5cm interstit	Site #1-between sample array and the shell bags. Surface of the sediment. Muddy bottom with 10cm high mounds. Bioturbation.	3:00	3.800	2.674	0.000	0.066	0.578	0.000	0.000	8.280	8.360	0.160-0.166
			2	5cm interstit	5cm interstit at the same site as #1	3:30	3.800	2.656	0.000	0.048	1.370	0.014	0.000	8.150		
			3	5cm interstit	Site #2-surface of sediment	3:00	3.700	2.588	0.000	0.092	0.554	0.000	0.000	8.150		
7/9/93	3548	as per 3547	1	5cm interstit	S of scattered shells, near third deployment site of bags; at the surface of the sediment	3:00	3.700	2.612	0.004	0.054	0.548	0.000	0.000	8.280	8.360	0.160-0.166
			2	5cm interstit	5cm interstit at the site of #1	3:30	3.800	2.782	0.000	0.004	0.866	0.000	0.000	8.310		
			3	10 cm interstit	0.5meter from #1&#2	4:00	3.700	2.800	0.000	0.056	0.764	0.048	0.000	8.110		
			4	5cm interstit	Near 4th deployment of bags, surface of the sediment	3:30	3.600	2.562	0.000	0.278	1.162	0.000	0.000	8.250		
			5	5cm interstit	same site as #4, 5cm interstit	4:00	3.700	2.634	0.000	0.268	1.660	0.000	0.000	8.500		
			6	10 cm interstit	same site as #4, 10 cm interst.	4:30	3.700	2.924	0.000	0.056	0.756	0.032	0.000	8.080		
7/10/93	3549	East Flower Garden 27 54'31.64"N 93 34'53.27"W 70-100m deep	1	5cm interstit	Area is a salt dome high pushing up the bottom; colonized by corals. Sample of brine fluid from pool on site.		22.000	4.508	0.228	0.000	0.298	0.054	0.000	7.510	8.700	0.188-0.194
			2	5 cm interstit	Ambiant,sediment surface water		5.400	2.714	0.268	0.000	0.420	0.042	0.000	8.600		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
					from the lander, site #1.											
7/10/93	3550	As per 3549	1	5cm interstit	Site #3--above brine interface. Brine pools with hummocks of salf, debris. Brine approx. 6" deep.	3:00	3.800	2.428	0.000	0.026	0.616	0.014	0.000	8.640	8.700	0.200-0.206
			3	5cm interstit	Below brine interface, just above hard ground	3:30	21.600	5.296	3.510	0.000	0.260	0.082	0.000	7.330		
			4	5cm interstit	Just below hard ground by 1cm	4:00	22.800	5.618	6.128	0.000	0.326	0.120	0.000	7.270		
7/11/93	3552	28 2'0.61"N 94 50'0.16"W 66meters deep	1	5cm interstit	Middle/outer continental shelf. Muddy bottom. Some pockets/ burrows provide the only signs of life. Visibility extremely poor. Silt easy to stir up. Sample from sediment surface. Near site #1.	1:00	3.800	2.518	0.000	0.038	0.528	0.016	0.000	8.670	8.640	0.153-0.159
			2	5cm interstit	5cm interstit (?-poor visibility) close to #1.	1:30	3.800	2.824	0.000	0.058	0.946	0.022	0.000	8.640		
7/12/93	3553	E. Flower Garden Brine Seep-see 3549	1	10 cm interstit	Ambiant water near anchor in the mouth of the canyon near site 1. Very coarse sedimnent; sample not taken in the brine river. No visible benthic fauna, some evidence (sediment surface irregularities) of turbation. brine river nearby.	1:30	4.200	2.564	0.000	0.028	0.502	0.028	0.000	8.630	8.690	0.184-0.197
			2	10 cm interstit	As #1, near lander. 10 cm interstit	1:30	4.000	2.756	0.000	0.050	0.566	0.028	0.000	7.060		
7/12/93	3554	As per 3553	1	10 cm interstit	Near site #3--Ambiant water. In the delta of the brine river but not in the brine itself. No brine flow visible near this site. Bottom with mineral precipitate (?), sediment consists of large grains of sand. Sediment a bit ruffled, but no evidence of deep bioturbation.	3:15	3.800	2.524	0.000	0.082	0.468	0.000	0.000	8.350	8.690	0.184-0.194
			2	10 cm interstit	Near sample #1.	3:45	3.700	2.834	0.000	0.044	0.494	0.000	0.000	8.450		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
			3	10 cm interstit	Near deployment #4, approx. 30 meters further from the canyon mouth than samples 1 and 2. No brine flow visible Sediment similar to that at site #3. "Fluff" on sediment-- from high productivity waters above (ooze from silicacious or calcerous microorganisms?) Saw several LARGE radiolarians during the course of the dive, and the water column above is murky with presumed plankton.	3:15	3.700	2.498	0.000	0.058	0.472	0.016	0.000	8.320		
			4	10 cm interstit	10 cm interstit near sample #3. Near site #4.	3:45	3.700	3.012	0.000	0.056	0.536	0.000	0.000	8.540		
7/13/93	3555	Horseshoe Bank 27 57.56 N 92 00.021W 110-120 meters	1	5cm interstit	Muddy bottom near site #1. F Flocculent, loose sediment. Burrows provide evidence of deep bioturbation. Nearby, but not at this site, is a sunken reef with an abundance of Crinoids. Hypothetical fallen salt dome.	4:00	3.700	2.560	0.000	0.076	0.662	0.000	0.000	8.650	8.600	0.150-0.156
			2	5cm interstit	Near sample #1, 5cm interstit	4:30	3.700	2.770	0.000	0.046	1.214	0.000	0.000	8.230		
			3	10cm interstit	Near sample #1, 10cm interstit	5:00	3.700	3.074	0.000	0.114	0.934	0.022	0.000	8.250		
			4	5cm interstit	Muddy bottom, low visibility. Very similar to site #1. Near site #2. Water from surface of sediments.	4:00	3.700	2.544	0.000	0.052	0.612	0.000	0.000	8.510		
			5	5cm interstit	5cm interstit near site #2.	4:30	3.700	2.760	0.000	0.052	1.144	0.000	0.000	8.410		
			6	10cm interstit	10 cm interstit near site #2.	5:00	3.700	2.784	0.000	0.136	1.374	0.024	0.000	8.510		
7/13/93	3556	Horseshoe Bank Hard bottom	1	5cm interstit	Thin layer of sediment on top of hard bottom; layer approx to be a few cm deep. Flocculent sediment. Surface water sample near site #3; just to the right of prominent rocky ledge with 3-4 crinoids.	3:00	3.700	2.492	0.000	0.218	0.690	0.000	0.000	8.620	8.640	0.163-0.166
			2	5cm interstit	450'+ from site #3, at site 4.	3:30	3.700	2.478	0.000	0.208	0.928	0.000	0.000	8.630		

Date	Dive	Site	Syr #	Device	Comments	Idle Time hr:min	Sal g/100	CO2	H2S	O2	N2	CH4	CO	pH	pH Seabird	O2 Seabird
7/14/93	3557	GC234	1	5cm interstit	Surface of sediment, flat bottom, hard surface. Near rocky promitory. Surface sample 20-30 degree slope. Muddy/silt bottom. Upslope is due north. Ambiant water near deployment site #1.	3:00	3.700	2.628	0.000	0.116	0.640	0.000	0.000	8.180	8.310	0.163-0.166
			2	5cm interstit	5cm interstit, same site.	3:30	3.700	2.616	0.002	0.250	1.066	0.000	0.000	8.410		
			3	10 cm interstit	10cm interstit, same site.	4:00	3.800	2.816	0.000	0.288	1.894	0.018	0.000	8.080		
			4	5cm interstit	Near deployment site #2. Near tubeworm aggregation/bacterial mat. Surface sample.	3:30	3.700	2.728	0.000	0.162	0.706	0.000	0.000	7.810		
			5	5cm interstit	As above; 5cm interstit	4:00	3.800	5.636	2.182	0.004	1.402	1.062	0.000	8.420		
			6	10 cm interstit	As above, but 10cm interstit	4:30	3.800	10.344	5.044	0.002	1.238	6.066	0.000	8.260		
7/14/93	3558	GC234	1	5cm interstit	Near gorgonian field, site #3. Ambiant water, muddy/silty bottom.	3:30	3.500	2.652	0.000	0.050	0.674	0.000	0.000	8.290	8.330	0.156-0.166
			2	5cm interstit	5cm interstit, see above.	4:00	3.600	2.788	0.000	0.144	1.284	0.000	0.000	8.570		
			3	10 cm interstit	10 cm interstit, see above.	4:30	3.700	2.934	0.000	0.188	1.202	0.020	0.000	8.380		

Mussel Data

Mussel Condition: 1991 Growth

Site	Sample #	Marked / Unmarked	Shell vol (ml)	Total WW (g)	Total Dry (g)	CI	AFDW (g)	Length (mm)	%GLY WW	% Water
Bush Hill (BH)	3129-1	U	45.38	30.78	3.03	0.04	1.78	83.5	0.61	90.14
BH	-2	U	47.89	33.83	2.84	0.03	1.34	86	0.75	91.61
BH	-3	U	63.13	40.74	4.73	0.05	3.07	94.9	2	88.4
BH	-4	U	35.76	29.00	2.48	0.04	1.39	76.3	0.76	91.45
BH	-5	U	47.25	33.68	3.26	0.04	1.92	82.8	1.07	90.32
BH	-6	U	12.74	10.23	0.85	0.04	0.50	56.3	1.23	91.7
BH	-7	U	45.37	39.99	5.17	0.08	3.84	80.5	0.86	87.08
BH	-8	U	30.36	23.03	2.24	0.04	1.36	72.5	1.09	90.27
BH	-9	U	41.39	34.29	4.8	0.09	3.56	87.3	1.84	85.99
BH	3129-10	U	37.30	29.57	2.21	0.02	0.88	78.8	0.26	92.52
BH	-11	U	30.80	27.69	2.93	0.06	1.75	72.5	1.58	89.43
BH	-12	U	37.95	34.81	3.6	0.05	1.95	77.5	1.51	89.67
BH	-13	U	28.67	19.87	1.8	0.04	1.04	72.5	1.06	90.95
BH	-14	U	17.98	14.21	1.42	0.05	0.91	61.1	1.06	90.04
BH	-15	U	36.94	32.30	3.17	0.05	1.88	78.3	1.35	90.19
BH	-16	U	25.96	22.87	3.25	0.09	2.42	68.7	2.56	85.79
BH	-17	U	46.90	43.22	6.48	0.11	5.06	86.3	2.75	85
BH	-18	U	26.08	23.64	3.22	0.09	2.41	72.2	2.29	86.4
BH	-19	U	43.59	34.30	4.26	0.07	2.97	77.4	2.5	87.57
BH	3129-20	U	57.64	46.60	7.38	0.10	5.79	91.6	2.56	84.17
BH	-21	U	49.63	39.55	2.91	0.03	1.27	86.6	0.47	92.63
BH	-22	U	2.28	1.78	0.18	0.05	0.13	34	0.25	90
BH	-23	U	8.90	7.72	0.6			51.2	0.43	92.27
BH	-24	U	52.78	42.39	5.05	0.07	3.86	87.4	2.21	88.08
BH	-25	U	27.10	25.55	3.4	0.09	2.56	73.1	2.46	86.71
BH	-26	U	20.18	16.53	1.47	0.04	0.81	63.2	0.78	91.1
BH	-27	U	45.09	38.76	3.96	0.06	2.49	82.5	1.63	89.79
BH	-28	U	0.81	0.59	0.09	0.09	0.08	24.4	0.34	84.4
BH	-29	U	49.76	33.74	2.45	0.02	1.12	86.2	0.16	92.74

Mussel Condition: 1991 Growth

Site	Sample #	Marked / Unmarked	Shell vol (ml)	Total WW (g)	Total Dry (g)	CI	AFDW (g)	Length (mm)	%GLY WW	% Water
BH	3129-30	U	1.71	1.32	0.18	0.08	0.14	30	0.76	86.6
BH	-31	U	38.17	32.70	3.87	0.07	2.63	79.7	1.5	88.17
BH	-32	U	2.53	2.30	0.4	0.14	0.34	33.9	2.29	82.5
BH	-33	U	39.28	32.53	3.93	0.07	2.77	81.5	1.93	87.93
BH	-34	U	4.63	3.86	0.45	0.06	0.30	41	1.09	88.24
BH	-35	U	29.78	24.46	2.43	0.05	1.40	72.5	1.36	90.08
BH	-36	U	4.23	3.56	0.53	0.10	0.44	40	1.76	85
BH	-37	U	28.05	24.17	3.3	0.09	2.45	74.1	3.02	86.34
BH	-38	U	15.40	12.91	1.08	0.04	0.56	60.2	0.16	91.66
BH	-39	U	42.44	35.82	3.36	0.05	2.15	81.9	1.25	90.62
BH	3129-40	U	71.63	58.76	9.3	0.10	7.27	96.3	2.94	84.18
BH	-41	U	32.60	25.49	2.31	0.04	1.31	76	1.06	90.92
BH	-42	U	52.68	44.78	4.37	0.05	2.55	85.5	1.31	90.25
BH	-43	U	39.91	35.00	2.96	0.04	1.50	78.2	0.75	91.54
BH	-44	U	47.51	36.49	2.82	0.03	1.29	85.8	0.24	92.26
BH	-45	U	39.48	24.90	2.11	0.02	0.98	81.3	0.06	91.51
BH	-46	U	41.77	35.84	3.5	0.05	2.07	86.3	0.65	90.24
BH	-47	U	30.90	27.42	3.43	0.08	2.49	76.6	2.73	87.51
BH	-48	U	47.34	39.04	5.03	0.07	3.50	84.5	1.68	87.12
BH	-49	U	37.72	34.38	4.53	0.09	3.36	81.5	2.34	86.83
BH	3129-50	U	44.49	39.08	4.72	0.07	3.25	83.8	2.41	87.92
GC 272	3137-1	U	82.60	63.48	10.21	0.10	8.19	104.7	4.19	83.91
GC 272	-2	U	31.56	25.18	3.08	0.06	1.97	72.4	2.85	87.76
GC 272	-3	U	85.63	69.94	8.18	0.06	5.08	101.6	1.59	88.3
GC 272	-4	U	44.14	32.41	4.35	0.07	3.19	77.7	2.15	86.59
GC 272	-5	U	73.45	62.29	8.97	0.09	6.37	96	3.29	85.6
GC 272	-6	U	46.72	43.46	6.53	0.10	4.59	82.5	3.38	84.97
GC 272	-7	U	42.32	29.54	3.48	0.05	2.17	82.2	2.05	88.22
GC 272	-8	U	49.87	35.13	2.99	0.03	1.37	88.8	0.57	91.49

Mussel Condition: 1991 Growth

Site	Sample #	Marked / Unmarked	Shell vol (ml)	Total WW (g)	Total Dry (g)	CI	AFDW (g)	Length (mm)	%GLY WW	% Water
GC 272	-9	U	85.60	67.46	9.38	0.07	6.38	102.5	2.22	86.1
GC 272	3137-10	U	67.11	53.98	6.63	0.07	5.02	95.5	2.23	87.72
GC 272	-11	U	80.52	67.92	8.83	0.08	6.60	102.3	2.82	87
GC 272	-12	U	73.79	59.29	9.29	0.09	6.98	96.8	3.61	84.33
GC 272	-13	U	64.78	51.69	6.81	0.07	4.35	96.1	2.47	86.83
GC 272	-14	U	43.43	37.49	5.49	0.09	4.06	83.5	3.71	85.37
GC 272	-15	U	40.77	31.04	5.75	0.11	4.59	80	4.76	81.47
GC 272	-16	U	62.00	40.04	6.5	0.08	4.94	94.7	3.83	83.77
GC 272	-17	U	70.50	57.63	9.69	0.10	7.32	97.9	4.03	83.18
GC 272	-18	U	46.42	34.95	3.09	0.04	1.87	85.5	1.07	91.15
GC 272	-19	U	41.02	31.73	4.94	0.09	3.66	81.7	2.74	84.44
GC 272	3137-20	U	47.83	43.22	7.4	0.12	5.77	83	5.14	82.88
BH	3139-1	U	37.66	20.93	2.6	0.04	1.68	83.2	1.47	87.57
BH	-2	U	8.58	2.22	0	0.00	0.00	49.1		0
BH	-3	U	41.25	22.92	1.81	0.02	0.75	78	0.11	92.09
BH	-4	U	37.07	26.25	2.65	0.04	1.45	75.5	1.23	89.92
BH	-5	U	13.71	8.28	0.66	0.02	0.30	56.3	0.05	92.03
BH	-6	U	7.55	5.76	0	0.00	0.00	48.2		0
BH	-7	U	33.20	20.96	2.25	0.04	1.33	73.1	1.09	89.25
BH	-8	U	44.09	34.26	2.97	0.03	1.44	81.1	0.49	91.33
BH	-9	U	24.95	18.70	2.04	0.05	1.22	68.8	1.23	89.11
BH	3139-10	U	24.89	16.23	1.98	0.05	1.19	70.4	1.69	87.77
BH	-11	U	20.62	16.40	1.72	0.05	1.04	60.1	1.52	89.52
BH	-12	U	37.30	28.68	2.64	0.03	1.27	79.5	0.62	90.8
BH	-13	U	39.70	25.32	2.49	0.03	1.33	83	0.49	90.18
BH	-14	U	30.93	23.31	1.13	0.02	0.50	74.8	0.03	95.14
BH	-15	U	15.03	11.26	1.14	0.04	0.62	57.2	1.06	89.91
BH	-16	U	15.85	11.95	0.92	0.02	0.35	58.6	0.11	92.31
BH	-17	U	22.25	16.36	1.33	0.03	0.63	65.3	0.4	91.87

Mussel Condition: 1991 Growth

Site	Sample #	Marked / Unmarked	Shell vol (ml)	Total WW (g)	Total Dry (g)	CI	AFDW (g)	Length (mm)	%GLY WW	% Water
BH	-18	U	33.59	24.53	2.8	0.05	1.63	73.6	1.39	88.57
BH	-19	U	40.85	32.90	2.27	0.02	0.70	79.6	0.06	93.11
BH	3139-20	U	30.31	21.82	2.92	0.07	1.99	73.4	1.95	86.63
BH	-21 sp nov	U	4.51	3.47		0.00		46.6		
GC 234	3142-1	U	7.71	5.63	0.82	0.08	0.63	46.9	2.15	85.4
GC 234	-2	U	13.20	10.63	1.49	0.11	1.49	58.6	2.92	85.96
GC 234	-3	U	8.43	6.06	0.72	0.06	0.52	50.6	1.16	88.1
GC 234	-4	U	17.58	12.54	1.92	0.08	1.43	61.6	3.14	84.72
GC 234	-5	U	33.12	24.35	3.12	0.06	2.13	71.8	2.2	87.19
GC 234	-6	U	34.62	24.85	2.91	0.05	1.83	74.2	1.91	88.27
GC 234	-7	U	25.09	21.04	2.06	0.05	1.33	67.8	0.88	90.19
GC 234	-8	U	31.09	27.06	3.01	0.06	1.91	73.9	0.45	88.89
GC 234	-9	U	29.48	24.10	2.28	0.04	1.20	73.5	0.85	90.55
GC 234	3142-10	U	27.29	20.95	2.17	0.05	1.31	68.5	1.73	89.65
GC 234	-11	U	16.93	12.15	1.55	0.06	1.06	59.7	2.11	87.23
GC 234	-12	U	28.07	22.38	2.73	0.06	1.78	72.1	1.57	87.8
GC 234	-13	U	30.17	23.24	2.43	0.05	1.47	75	1.15	89.53
GC 234	-14	U	32.68	25.65	2.24	0.03	1.13	73.5	0.55	91.26
GC 234	-15	U	34.60	18.89	2.66	0.04	1.40	73.5	1.76	85.92
GC 234	-16	U	22.12	17.26	1.85	0.05	1.11	65.4	1.33	89.3
GC 234	-17	U	23.54	18.81	2.58	0.08	1.87	66.5	0.04	86.28
GC 234	-18	U	30.91	25.73	2.87	0.06	1.76	70	2.22	88.83
GC 234	-19	U	20.66	16.30	2.24	0.08	1.59	64.9	2.01	86.28
GC 234	3142-20	U	26.22	17.41	1.85	0.05	1.36	70.2	0.81	89.38
GC 234	-21 sp nov	U	3.19	0.63		0.00		41.8		
GC 234	-22 sp nov	U	3.13	1.75		0.00		40		

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
GC 234 growth	3266-1	M	30.81	29.332	3.951	0.101	3.108	78	3.11	86.53
GC 234 growth	2	M	22.63	19.291	1.803	0.053	1.198	67.6	1.16	90.66
GC 234 growth	3	M	12.95	12.365	1.476	0.084	1.087	56.5	2.16	88.07
GC 234 growth	4	M		27.827	3.361		2.513	72.8	2.37	87.92
GC 234 growth	5	M	36.96	33.923	4.062	0.083	3.080	80.5	2.20	88.03
GC 234 growth	6	M	22.54	20.735	1.565	0.039	0.883	66.4	0.22	92.45
GC 234 growth	7	M	6.75	6.246	0.577	0.057	0.387	45.2	0.54	90.77
GC 234 growth	8	M	32.49	30.842	3.383	0.075	2.449	76.1	2.37	89.03
GC 234 growth	9	M	33.60	27.906	3.033	0.064	2.164	73.7	1.91	89.13
GC 234 growth	10	M	33.56	33.031	3.547	0.077	2.571	78.6	1.90	89.26
GC 234 growth	11	M	30.90					71.5		
GC 234 growth	12	M	34.07					79.2		
GC 234 growth	13	M	25.67					70.9		
GC 234 growth	14	M	3.04					69.6		
GC 234 growth	15	M	16.77					63.3		
GC 234 growth	16	M	21.19	20.268	1.795	0.058	1.235	66.7	1.23	91.15
GC 234 growth	17	M	12.84	12.209	0.843	0.041	0.527	55	1.53	93.10
GC 234 growth	18	M	11.93					54.6		
GC 234 growth	19	M	11.78	10.833	1.157	0.070	0.828	54.7	2.37	89.32
GC 234 growth	20	M	18.71					64.6		
GC 234 growth	21	M	18.70					61.2		
GC 234 growth	22	M	10.09					54.3		
GC 234 growth	23	M	5.49					42.5		
GC 234 growth	24	M	3.70	2.978	0.330	0.072	0.267	36.2	1.86	88.93
GC 234 growth	25	M	7.30	6.574	0.573	0.054	0.391	47.8	1.33	91.29
GC 234 growth	26	M	3.14					35.7		
GC 234 growth	27	M	6.32					42.8		
GC 234 growth	28	M	6.51					44.2		
GC 234 growth	29	M		2.687	0.130		0.091	35.8	1.50	95.18
GC 234 growth	34	U	32.34	27.201	1.888	0.031	1.002	74	0.33	93.06
GC 234 growth	35	U		21.360	1.593		0.925	68.4	0.54	92.54
GC 234 growth	36	U	3.63	3.429	0.341	0.065	0.236	38	0.79	90.05
GC 234 growth	37	U	22.14	20.626	1.431	0.036	0.800	67	0.33	93.06
GC 234 growth	38	U	12.79	12.181	1.198	0.066	0.841	55.4	0.22	90.17
GC 234 growth	39	U	20.13	18.174	2.097	0.080	1.602	62.1	2.58	88.46

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
GC 234 growth	3266-40	U	23.66	22.949	2.742	0.092	2.170	68	3.71	88.05
GC 234 growth	41	U	3.16	2.991	0.221	0.052	0.164	37.5	1.10	92.61
GC 234 growth	42	U	5.54	5.042	0.509	0.065	0.362	42	1.28	89.91
GC 234 growth	43	U	6.69	6.214	0.763	0.087	0.580	45.2	1.78	87.72
GC 234 growth	44	U	29.61	26.815	2.499	0.061	1.801	73.2	2.83	90.68
GC 234 growth	45	U	12.45	10.929	1.157	0.065	0.815	56.5	2.22	89.42
GC 234 growth	46	U	4.51					40		
GC 234 growth	47	U	13.84	12.959	1.038	0.048	0.660	57.9	1.13	91.99
GC 234 growth	48	U	8.33					48.5		
GC 234 growth	49	U	12.38	11.386	1.017	0.054	0.670	53.7	0.75	91.07
GC 234 growth	50	U	13.37					46.6		
GC 234 growth	51	U	4.49					39.6		
GC 234 growth	52	U	4.53	4.110	0.376	0.056	0.252	39.2	0.59	90.86
GC 234 growth	53	U						44.4		
GC 234 growth	54	U	29.67	25.701	1.411	0.019	0.565	74.3	0.04	94.51
Bush Hill (BH) growth	3270-1	M	66.72	58.324	5.759	0.059	3.905	90.7	1.70	90.13
Bush Hill (BH) growth	2	M	33.36	30.924	2.715	0.053	1.773	81.7	0.96	91.22
Bush Hill (BH) growth	3	M	28.06	23.667	2.787	0.074	2.067	70.5	2.07	88.23
Bush Hill (BH) growth	4	M	10.63	8.710	1.029	0.072	0.770	54.2	1.81	88.18
Bush Hill (BH) growth	5	M	34.51	27.430	2.226	0.040	1.371	79.6	0.37	91.88
Bush Hill (BH) growth	6	M	21.93	19.891	1.145	0.023	0.494	67.4	0.05	94.25
Bush Hill (BH) growth	7	M	56.99	46.499	3.050	0.028	1.576	92.5	0.09	93.44
Bush Hill (BH) growth	8	M	5.51	4.197	0.393	0.047	0.261	42.3	0.49	90.64
Bush Hill (BH) growth	9	M	30.51	26.207	2.302	0.049	1.489	74.4	0.88	91.22
Bush Hill (BH) growth	10	M	6.07	4.551	0.470	0.054	0.325	44.3	0.90	89.66
Bush Hill (BH) growth	11	M	27.19					71.5		
Bush Hill (BH) growth	12	M	46.61					90.7		
Bush Hill (BH) growth	13	M	44.07					84.5		
Bush Hill (BH) growth	14	M	38.38					79.4		
Bush Hill (BH) growth	15	M	48.43					86		
Bush Hill (BH) growth	16	M	25.58					79.8		
Bush Hill (BH) growth	17	M	32.25					72		
Bush Hill (BH) growth	18	M	30.07					38.3		
Bush Hill (BH) growth	19	M	25.24					72.8		
Bush Hill (BH) growth	3270-20	M	28.37					71.7		

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
Bush Hill (BH) growth	21	M	15.26	13.267	1.848	0.098	1.493	59.2	4.14	86.07
Bush Hill (BH) growth	22	M	28.96					71.5		
Bush Hill (BH) growth	23	M	25.53	25.469	2.513	0.070	1.787	70.9	2.68	90.14
Bush Hill (BH) growth	24	M	36.24					80.3		
Bush Hill (BH) growth	25	M	27.72	23.819	2.103	0.052	1.447	73	1.05	91.17
Bush Hill (BH) growth	26	M	53.88					85.1		
Bush Hill (BH) growth	27	M	19.80					64.5		
Bush Hill (BH) growth	28	M	24.83	21.815	1.654	0.041	1.018	63.7	0.54	92.42
Bush Hill (BH) growth	29	M	20.38	21.035	1.976	0.066	1.349	67.2	0.97	90.61
Bush Hill (BH) growth	30	M	36.70					78.7		
Bush Hill (BH) growth	31	M	14.93	14.091	1.034	0.046	0.688	57.8	1.04	92.66
Bush Hill (BH) growth	32	M	24.27					67.1		
Bush Hill (BH) growth	33	M	15.02					57.6		
Bush Hill (BH) growth	34	M	6.90					37.9		
Bush Hill (BH) growth	35	M	41.38					80.5		
Bush Hill (BH) growth	37	M	18.44					63.2		
Bush Hill (BH) growth	36	M	19.19					61.8		
Bush Hill (BH) growth	38	M	10.01					52.5		
Bush Hill (BH) growth	39	M	25.27					70.3		
Bush Hill (BH) growth	40	M	13.32					53.3		
Bush Hill (BH) growth	41	M	2.68					34.1		
Bush Hill (BH) growth	42	M	13.00					56.5		
Bush Hill (BH) growth	70	M	12.91					56.9		
Bush Hill (BH) growth	3270-50	U	14.26	10.054	0.866	0.039	0.550	38.4	0.31	91.39
Bush Hill (BH) growth	51	U	44.38	37.779	3.104	0.045	1.985	81.6	0.66	91.79
Bush Hill (BH) growth	52	U	16.99	12.087	1.481	0.068	1.154	63.6	1.59	87.75
Bush Hill (BH) growth	53	U	36.81	26.126	3.408	0.068	2.485	79.8	1.89	86.96
Bush Hill (BH) growth	54	U	7.15	5.088	0.539	0.054	0.386	48.6	0.70	89.41
Bush Hill (BH) growth	55	U	37.16	32.605	1.986	0.027	1.009	78.9	1.20	93.91
Bush Hill (BH) growth	56	U	23.79					70.2		
Bush Hill (BH) growth	57	U	25.36					71		
Bush Hill (BH) growth	58	U	20.15					65.4		
Bush Hill (BH) growth	59	U	37.93	31.365	2.548	0.046	1.739	79.2	0.48	91.88
Bush Hill (BH) growth	60	U	49.58	42.137	2.562	0.027	1.357	86.9	0.16	93.92
Bush Hill (BH) growth	61	U	19.54	14.843	1.664	0.062	1.216	64.5	1.62	88.79

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
Bush Hill (BH) growth	62	U	14.74					58.1		
Bush Hill (BH) growth	63	U	15.33	13.340	1.019	0.036	0.549	60.4	0.19	92.36
Bush Hill (BH) growth	64	U	54.50	49.589	4.332	0.057	3.129	89.4	1.32	91.27
Bush Hill (BH) growth	65	U	42.71	38.807	1.789	0.058	2.478	82.9	0.60	95.39
Bush Hill (BH) growth	66	U	18.86	14.828	1.420	0.051	0.960	64.6	0.76	90.42
Bush Hill (BH) growth	67	U	33.96	27.707	2.944	0.060	2.046	73.4	1.21	89.38
Bush Hill (BH) growth	68	U	21.33	18.828	1.286	0.038	0.810	66.7	1.10	93.17
Bush Hill (BH) growth	69	U	41.67	38.302	4.945	0.092	3.817	82.2	2.59	87.09
Bush Hill Transplant (TPII)	3271-1	M	50.99	46.472	3.764	0.048	2.430	93.6	0.50	91.90
TP I	2	M	38.24	2.808				83.7		
TP II	3	M	31.98	1.490				73.3		
TP I	4	M	25.10	1.792				65.9		
TP II	5	M		3.409				84.4		
TP I	6	M	9.86	7.400	0.924	24.934	0.726	52.4	1.89	87.52
TP II	7	M	17.52	17.842	1.265	0.042	0.739	63.2	0.43	92.91
TP I	8	M	8.90	2.382				51.5		
TP II	9	M	21.65	1.864				66.2		
TP I	10	M	13.08	2.405				56.2		
TP II	11	M	8.56	7.557	0.451	0.026	0.223	50.4	0.07	94.04
TP I	12	M	24.19	2.132				70.1		
TP II	13	M	32.53					75		
TP I	14	M	28.82					71.4		
TP II	15	M	22.89					67.6		
TP I	16	M	60.16	50.967	4.345	0.048	2.880	91.6	0.86	91.47
TP II	17	M	14.16					57.4		
TP I	18	M	51.09	42.150	3.385	0.044	2.266	88	0.71	91.97
TP II	19	M	25.09					68.9		
TP I	20	M	32.09					73.5		
TP II	21	M	30.61	28.055	2.209	0.047	1.434	75.4	0.91	92.13
TP I	22	M		21.868	2.532		1.850	73.6	2.35	88.42
TP II	23	M	22.56					65.6		
TP I	24	M	30.51					74.7		
TP II	25	M	17.47					60.7		
TP I	26	M	17.59	14.129	1.739	0.077	1.348	65.3	1.66	87.70
TP II	27	M		32.380	2.420		1.483	76.7	0.34	92.50

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
TP I	28	M	36.96	31.689	3.150	0.060	2.234	80.5	0.96	90.06
TP II	29	M		4.568	0.316		0.177	51.5	0.07	93.08
TP I	3271-30	M	23.94					70.9		
TP II	31	M	31.00	26.393	1.723	0.037	1.135	74.6	0.45	93.47
TP I	32	M	24.10	19.962	2.229	0.072	1.735	66.4	2.30	88.83
TP II	33	M	33.27	29.481	1.546	0.021	0.705	75.4	0.10	94.76
TP I	34	M	25.16					72		
TP II	35	M	11.06	10.496	0.535	0.021	0.233	55.5	0.05	94.91
TP I	36	M	18.23					62.3		
TP II	37	M	12.45					57.2		
TP I	38	M	20.82	16.905	1.788	0.064	1.328	66.1	2.34	89.43
TP II	39	M	17.83					61.8		
TP I	40	M	21.01					66.7		
GC 272 growth	3277-1	M	95.94	56.109	8.352	0.071	6.770	94.5	3.50	85.12
GC 272 growth	2	M	29.30	25.902	4.300	0.123	3.598	75.7	2.72	83.40
GC 272 growth	3	M		3.027				109.9		
GC 272 growth	4	M	45.23	31.367	5.936	0.110	4.995	87.1	4.40	81.08
GC 272 growth	5	M	59.22	3.525				90.3		
GC 272 growth	6	M	43.58	39.884	5.861	0.110	4.792	83.3	2.77	85.31
GC 272 growth	7	M	111.73	96.870	11.649	0.079	8.873	115.9	2.27	87.98
GC 272 growth	8	M		80.386	11.921		9.691	103	3.82	85.17
GC 272 growth	9	M	53.30	50.821	8.876	0.140	7.450	92.4	3.85	82.54
GC 272 growth	10	M	70.56	59.817	8.984	0.102	7.166	99.8	2.73	84.98
GC 272 growth	11	M	64.50					94.8		
GC 272 growth	12	M	71.82					105.5		
GC 272 growth	13	M	56.75					86.8		
GC 272 growth	14	M	70.10	60.837	10.087	0.121	8.514	98.6	3.12	83.42
GC 272 growth	15	M	74.54					100.7		
GC 272 growth	16	M	47.20	41.771	5.017	0.084	3.962	85.2	2.43	87.99
GC 272 growth	17	M	65.78	55.000	9.796	0.125	8.236	94.7	5.65	82.19
GC 272 growth	18	M	72.98					97.5		
GC 272 growth	19	M	55.58	55.381	8.664	0.129	7.158	93.5	3.60	84.36
GC 272 growth	20	M	53.09	44.559	7.526	0.120	6.367	87	5.05	83.11
GC 272 growth	30	M	63.59	53.907	8.232	0.105	6.676	95.3	4.15	84.73
GC 272 growth	31	M	91.74	85.070	13.603	0.123	11.319	105.6	5.95	84.01

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
GC 272 growth	32	U	38.75	32.833	5.020	0.107	4.139	80.5	2.93	84.71
GC 272 growth	33	U	72.66	70.143	10.669	0.121	8.778	102.1	3.59	84.79
GC 272 growth	34	U	64.01	54.894	6.373	0.048	3.082	96.5	2.32	88.39
GC 272 growth	35	U	9.49	8.422	0.958	0.074	0.706	53.1	2.00	88.62
GC 272 growth	36	U	112.72	98.743	11.686	0.077	8.670	109.6	2.07	88.17
GC 272 growth	37	U	73.74	73.906	8.939	0.093	6.881	101.6	2.28	87.91
GC 272 growth	38	U	38.57	35.405	6.206	0.136	5.227	81.1	4.41	82.47
GC 272 growth	39	U	104.27	97.532	14.820	0.116	12.143	111.2	4.59	84.81
GC 272 growth	3277-40	U	9.97	8.974	0.901	0.066	0.659	53.9	3.53	89.96
GC 272 growth	41	U	79.88					100		
GC 272 growth	42	U						89.3		
GC 272 growth	43	U	90.59	90.069	13.101	0.117	10.606	111.5	2.57	85.46
GC 272 growth	44	U	34.07	31.637	5.054	0.124	4.222	79	4.46	84.03
GC 272 growth	45	U	62.34	56.095	9.965	0.139	8.669	92.8	6.81	82.24
GC 272 growth	46	U	37.54					78.9		
GC 272 growth	47	U	77.04	71.856	7.074	0.066	5.080	103.8	3.11	90.16
GC 272 growth	48	U	80.26	66.693	8.453	0.081	6.536	104.8	2.11	87.33
GC 272 growth	49	U	33.42	31.729	5.153	0.129	4.325	75.4	4.73	83.76
GC 272 growth	50	U	71.49	0.000	0.000	0.000	0.000	101.2		
GC 272 growth	51	U	64.92	0.000	0.000	0.000	0.000	96.5		
GC 272 growth	52	U	34.06	29.804	4.287	0.102	3.490	77.3	3.60	85.62
GC 234 ring	3283 -78	U	21.43	21.048	2.522	0.088	1.878	68.4	2.04	88.02
GC 234 ring	79	U	14.17	9.141	1.711	0.102	1.440	59.3	3.60	81.28
GC 234 ring	80	U	4.52	0.000	0.000	0.000	0.000	39.4		
GC 234 ring	81	U	6.54	3.798	0.657	0.081	0.528	48	1.90	82.70
GC 234 ring	82	U	0.03	0.478				20.6	0.00	
GC 234 ring	83	U	0.75	0.810	0.031	0.033	0.024	22.5	1.22	96.20
GC 234 ring	83	U	17.26	0.000	0.000	0.000	0.000	22.5		
GC 234 ring	84	U	20.08	19.113	2.533	0.095	1.903	67.4	3.56	86.75
GC 234 ring	85	U		10.789	2.166		1.886	61.5	5.01	
GC 234 ring	86	U	2.37	2.320	0.228	0.079	0.188	34.2	0.73	90.18
Bush Hill (BH) ring	1B	U	31.70	26.643	1.066	0.022	0.693	75.7	0.85	96.00
BH ring	2B	U	19.87	1.653	0.000	0.000	0.000	65.9	0.00	100.00
BH ring	3B	U	28.41	21.606	1.799	0.040	1.140	71.8	0.63	91.68
BH ring	4B	U	16.53	1.091	0.000	0.000	0.000	62.7	0.00	100.00

Mussel Condition: 1992 Growth

Site	Sample #	Marked / Unmarked	Shell Vol. (ml)	Total WW (g)	Total Dry	CI	AFDW (g)	Length (mm)	% GLY WW	% Water
BH ring	5B	U	10.68	6.544	0.475	0.028	0.295	53.1	0.15	92.74
BH ring	6B	U	9.90	0.000	0.000	0.000	0.000	53.7		
BH ring	7B	U	44.43	36.660	3.609	0.054	2.396	85.1	0.49	90.16
BH ring	8B	U	34.51	30.579	2.449	0.045	1.552	79	0.66	91.99
BH ring	9B	U	12.11	10.233	0.933	0.050	0.611	53.2	0.73	90.89
BH ring	10B	U	23.26	19.437	1.234	0.027	0.636	69.6	0.04	93.65
GC 272 ring	3534-90	U	72.76	64.750	8.126	0.086	6.245	94.4	2.45	87.45
GC 272 ring	91	U	73.53	63.055	5.883	0.054	3.985	94.1	1.15	90.67
GC 272 ring	92	U	43.35	1.273	0.000	0.000	0.000	85.9	0.00	100.00
GC 272 ring	93	U	43.77	36.466	5.021	0.089	3.896	83.6	2.20	86.23
GC 272 ring	94	U	41.77	35.597	3.700	0.063	2.620	83.4	1.44	89.61
GC 272 ring	95	U	82.82	74.391	6.688	0.053	4.378	102	1.06	91.01
GC 272 ring	96	U	80.99	1.149	0.000	0.000	0.000	101.3	0.00	100.00
GC 272 ring	97	U	53.82	43.763	4.039	0.050	2.700	87.6	0.87	90.77

Mussel Growth: 1991 / 1992

Site	Dive	Anim. #	91 Length (mm)	92 Length (mm)	Δ Length (mm)
Bush hill	3270	1	91.00	90.70	-0.30
Bush hill	3270	2	80.90	81.70	0.80
Bush hill	3270	3	69.60	70.50	0.90
Bush hill	3270	4	49.60	54.20	4.60
Bush hill	3270	5	79.20	79.60	0.40
Bush hill	3270	6	67.60	67.40	-0.20
Bush hill	3270	7	92.50	92.50	0.00
Bush hill	3270	8	42.50	42.30	-0.20
Bush hill	3270	9	73.40	74.40	1.00
Bush hill	3270	10	43.70	44.30	0.60
Bush hill	3270	11	71.70	71.50	-0.20
Bush hill	3270	12	90.00	90.70	0.70
Bush hill	3270	13	85.30	84.50	-0.80
Bush hill	3270	14	80.80	79.40	-1.40
Bush hill	3270	15	85.10		
Bush hill	3270	16	70.80	79.80	9.00
Bush hill	3270	17	72.30	72.00	-0.30
Bush hill	3270	18	76.70	78.00	1.30
Bush hill	3270	19	72.20	72.80	0.60
Bush hill	3270	20	70.90	71.70	0.80
Bush hill	3270	21	57.30	59.20	1.90
Bush hill	3270	22	71.30	71.50	0.20
Bush hill	3270	23	69.40	70.90	1.50
Bush hill	3270	24	81.20	80.30	-0.90
Bush hill	3270	25	73.00	73.00	0.00
Bush hill	3270	26	85.00	85.10	0.10
Bush hill	3270	27	64.50	64.50	0.00
Bush hill	3270	28	64.70	63.70	-1.00
Bush hill	3270	29	66.20	67.20	1.00
Bush hill	3270	30	79.70	78.70	-1.00
Bush hill	3270	31	57.70	57.80	0.10
Bush hill	3270	32	65.70	67.10	1.40
Bush hill	3270	33	54.90	57.60	2.70
Bush hill	3270	34	44.70	37.90	-6.80
Bush hill	3270	35	81.50	80.50	-1.00
Bush hill	3270	36	61.90	61.80	-0.10
Bush hill	3270	37	60.50	63.20	2.70
Bush hill	3270	38	47.50	52.50	5.00
Bush hill	3270	39	70.20	70.30	0.10
Bush hill	3270	40	54.50	53.30	-1.20
Bush hill	3270	41	29.90	34.10	4.20

Mussel Growth: 1991 / 1992

Site	Dive	Anim. #	91 Length (mm)	92 Length (mm)	Δ Length (mm)
Bush hill	3270	42	56.70	56.50	-0.20
Bush hill	3270	43	69.30	69.00	-0.30
Bush hill	3270	44	70.50	69.40	-1.10
Bush hill	3270	45	66.10	65.30	-0.80
Bush hill	3270	46	65.50	64.60	-0.90
Bush hill	3270	47	87.90	87.60	-0.30
Bush hill	3270	48	84.70		
Bush hill	3270	49	27.20	27.10	-0.10
Bush hill	3270	70	57.30	56.90	-0.40
Bush hill	3270	71	41.70	41.70	0.00
GC 234	3266	1	72.20	78.00	5.80
GC 234	3266	2	67.30	67.60	0.30
GC 234	3266	3	54.60	56.50	1.90
GC 234	3266	4	72.60	72.80	0.20
GC 234	3266	5	79.50	80.50	1.00
GC 234	3266	6	66.60	66.40	-0.20
GC 234	3266	7	44.70	45.20	0.50
GC 234	3266	8	75.20	76.10	0.90
GC 234	3266	9	73.70	73.70	0.00
GC 234	3266	10	77.80	78.60	0.80
GC 234	3266	11	71.80	71.50	-0.30
GC 234	3266	12	79.30	79.20	-0.10
GC 234	3266	13	70.60	70.90	0.30
GC 234	3266	14	69.30	69.60	0.30
GC 234	3266	15	62.60	63.30	0.70
GC 234	3266	16	66.50	66.70	0.20
GC 234	3266	17	55.00	55.00	0.00
GC 234	3266	18	53.10	54.60	1.50
GC 234	3266	19	54.70	54.70	0.00
GC 234	3266	20	64.80	64.60	-0.20
GC 234	3266	22	62.30	54.30	-1.10
GC 234	3266	23	54.50	42.50	-0.20
GC 234	3266	24	39.00	36.20	3.50
GC 234	3266	25	44.50	47.80	3.30
GC 234	3266	26	26.40	35.70	9.30
GC 234	3266	27	42.90	42.80	-0.10
GC 234	3266	28	43.70	44.20	0.50
GC 234	3266	29	23.90	35.80	11.90
GC 272	3277	1	94.60	94.50	-0.10
GC 272	3277	2	75.20	75.70	0.50
GC 272	3277	3	109.00	109.90	0.90

Mussel Growth: 1991 / 1992

Site	Dive	Anim. #	91 Length (mm)	92 Length (mm)	Δ Length (mm)
GC 272	3277	4	85.20	87.10	1.90
GC 272	3277	5	87.30	90.30	3.00
GC 272	3277	6	81.00	83.30	2.30
GC 272	3277	6	115.40	115.90	0.50
GC 272	3277	7	102.50	103.00	0.50
GC 272	3277	8	88.80	92.40	3.60
GC 272	3277	9	98.50	99.80	1.30
GC 272	3277	10	93.50	94.80	1.30
GC 272	3277	11	104.80	105.50	0.70
GC 272	3277	12	88.00	86.80	-1.20
GC 272	3277	14	97.30	98.60	1.30
GC 272	3277	15	99.80	100.60	0.80
GC 272	3277	16	85.10	85.20	0.10
GC 272	3277	17	92.40	94.70	2.30
GC 272	3277	18	96.80	97.50	0.70
GC 272	3277	19	92.40	93.50	1.10
GC 272	3277	20	84.80	87.00	2.20
GC 272	3277	30	92.40	94.00	1.60
GC 272	3277	31	90.70	90.50	-0.20
GC 272	3277	32	91.00	89.40	-1.60
GC 272	3277	33	95.90		
GC 272	3277	34	93.50		
GC 272	3277	35	87.70	89.40	1.70
GC 272	3277	36	96.40		
GC 272	3277	37	69.70		
GC 272	3277	38	91.10		
GC 272	3277	39	94.10	95.30	1.20
GC 272	3277	40	105.50	105.60	0.10

Mussel Growth: 1992 / 1993

Site	Dive	Anim.#	92 Length (mm)	93 Length (mm)	Δ Length (mm)
Bush Hill	3531/32	1	74.00	74.40	0.40
Bush Hill	3531/32	2	62.60	63.10	0.50
Bush Hill	3531/32	3		87.00	
Bush Hill	3531/32	4	84.40	85.90	1.50
Bush Hill	3531/32	5	65.20	65.60	0.40
Bush Hill	3531/32	6	60.20	59.30	-0.90
Bush Hill	3531/32	7		89.90	
Bush Hill	3531/32	8	70.50	71.00	0.50
Bush Hill	3531/32	9	62.00	62.50	0.50
Bush Hill	3531/32	10	75.00	75.30	0.30
Bush Hill	3531/32	11	76.20	76.30	0.10
Bush Hill	3531/32	12	78.80	89.70	
Bush Hill	3531/32	13	79.80	80.10	0.30
Bush Hill	3531/32	14	69.30	69.60	0.30
Bush Hill	3531/32	15	67.30	67.80	0.50
Bush Hill	3531/32	16	79.00	79.20	0.20
Bush Hill	3531/32	17	90.10	91.00	0.90
Bush Hill	3531/32	18		80.00	
Bush Hill	3531/32	19	78.60	79.80	1.20
Bush Hill	3531/32	20	82.70	82.90	0.20
Bush Hill	3531/32	21	50.40	53.00	2.60
Bush Hill	3531/32	22		82.70	
Bush Hill	3531/32	23	81.40	81.90	0.50
Bush Hill	3531/32	24	88.40	98.40	
Bush Hill	3531/32	25	73.30	73.90	0.60
Bush Hill	3531/32	26	81.60	82.90	1.30
Bush Hill	3531/32	27			
Bush Hill	3531/32	28	92.90	93.00	0.10
Bush Hill	3531/32	29	70.90	70.80	-0.10
Bush Hill	3531/32	30	67.80	67.90	0.10
Bush Hill	3531/32	31	73.60	74.00	0.40
Bush Hill	3531/32	32	80.10	80.20	0.10
Bush Hill	3531/32	33	86.40	86.40	0.00
Bush Hill	3531/32	34	74.00	74.30	0.30
Bush Hill	3531/32	35	71.30	71.80	0.50
Bush Hill	3531/32	36	62.10	62.40	0.30
Bush Hill	3531/32	37	75.90	76.10	0.20
Bush Hill	3531/32	38	39.00	39.70	0.70
Bush Hill	3531/32	39	76.00	76.40	0.40
Bush Hill	3531/32	40	63.70	64.00	0.30
Bush Hill	3531/32	41	80.70	81.10	0.40
Bush Hill	3531/32	42	72.00	72.90	0.90

Mussel Growth: 1992 / 1993

Site	Dive	Anim.#	92 Length (mm)	93 Length (mm)	Δ Length (mm)
Bush Hill	3531/32	43	50.20	50.20	0.00
Bush Hill	3531/32	44	29.10	31.20	2.10
Bush Hill	3531/32	45			
Bush Hill	3531/32	46			
Bush Hill	3531/32	47	50.10	51.70	1.60
GC 234	3524	1		83.00	
GC 235	3524	2	65.50	68.00	2.50
GC 236	3524	3	42.90	50.10	7.20
GC 237	3524	4	59.00	59.90	0.90
GC 238	3524	5	75.30	75.90	0.60
GC 239	3524	6		75.00	
GC 240	3524	7	68.20	68.80	0.60
GC 241	3524	8	35.30	45.20	9.90
GC 242	3524	9	39.40	53.50	14.10
GC 243	3524	10	44.70	49.10	4.40
GC 244	3524	11	66.80	70.30	3.50
GC 245	3524	12		73.70	
GC 246	3524	13	28.90	32.00	3.10
GC 247	3524	14	59.20	61.50	2.30
GC 248	3524	15		95.50	
GC 249	3524	16		47.00	
GC 250	3524	17	46.70	55.30	8.60
GC 251	3524	18		59.30	
GC 252	3524	19		54.60	
GC 253	3524	20	25.00	37.70	12.70
GC 254	3524	21	50.20	55.00	4.80
GC 255	3524	22	63.00	65.50	2.50
GC 256	3524	23	61.00	63.10	2.10
GC 257	3524	24	55.20	58.30	3.10
GC 258	3524	25	56.40	55.90	-0.50
GC 259	3524	26	50.80	55.50	4.70
GC 260	3524	27	68.40	69.00	0.60
GC 261	3524	28	57.60	63.70	6.10
GC 262	3524	29	57.30	64.10	6.80
GC 263	3524	30	56.10	59.60	3.50
GC 264	3524	31		47.20	
GC 265	3524	32	46.00	49.50	3.50
GC 266	3524	33	53.40	55.30	1.90
GC 267	3524	34	41.30	48.50	7.20
GC 268	3524	35	60.80	62.60	1.80
GC 269	3524	36	45.20	52.80	7.60
GC 270	3524	37	66.50	70.20	3.70

Mussel Growth: 1992 / 1993

Site	Dive	Anim.#	92 Length (mm)	93 Length (mm)	Δ Length (mm)
GC 271	3524	38	57.00	58.80	1.80
GC 272	3524	39	59.00	63.10	4.10
GC 273	3524	40	45.90	53.50	7.60
GC 274	3524	41	45.70	53.50	7.80
GC 275	3524	42	51.40	55.30	3.90
GC 276	3524	43	42.00	59.60	17.60
GC 277	3524	45	40.80	47.20	6.40
GC 278	3524	46	37.90	42.70	4.80
GC 279	3524	47	39.00	43.00	4.00
GC 280	3524	48	0.00	41.30	
GC 281	3524	49	30.60	38.50	7.90
GC 282	3524	50	36.50	43.10	6.60
GC 283	3524	51	23.90	35.00	11.10
GC 284	3524	54	42.00	45.70	3.70
GC 285	3524	55	64.40	64.50	0.10
GC 286	3524	56	22.50	34.60	12.10
GC 287	3524	58	32.50	41.30	8.80
GC 288	3524	60	36.10	37.70	1.60
GC 289	3524	62	67.80	68.70	0.90
GC 272	3534	1	96.50	95.30	-1.20
GC 273	3534	2	90.90	91.50	0.60
GC 274	3534	3	83.50	83.20	-0.30
GC 275	3534	4	100.90	101.40	0.50
GC 276	3534	5	92.10	92.10	0.00
GC 277	3534	6	98.50	98.40	-0.10
GC 278	3534	7	96.20	96.60	0.40
GC 279	3534	8	94.50	94.60	0.10
GC 280	3534	9	92.40	92.80	0.40
GC 281	3534	10	90.90	91.20	0.30
GC 282	3534	11		0.00	
GC 283	3534	12		0.00	
GC 284	3534	13		0.00	
GC 285	3534	194	52.30	52.20	-0.10
GC 286	3534	195	89.30	90.50	1.20

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
75.7	63.5	61.3	85.1
65.9	77.6	64.6	97.7
71.8	51.9	29.1	80.4
62.7	60	45.2	94.7
53.1	74	79.9	88.8
53.7	69.3	63.4	105.1
85.1	72.1	31.9	97.7
79	53.5	69.7	86.7
53.2	51.5	65.9	75.9
69.6	49	29.5	78.7
65	69.3	31.4	65.2
69.8	68.3	77.5	83
66.9	67.8	59	87.8
77.5	53.9	24.8	40.7
76.4	77.3	71.6	85.1
64.6	63.3	32.9	71.4
68.9	67.5	58.5	90.1
80.5	61.3	53.5	103
63	78.7	44.8	12.3
68.8	49.8	30.1	109.2
58.5	80.1	68.8	95.6
47.6	80.7	43.5	95.1
75.2	69.5	65.4	84.4
58	65	19	47.9
82.4	61.6	47.5	82.5
68.3	72	62.4	94.8
54.3	66	71.5	79.5
83.2	65.3	41.4	96
62.8	67.1	77.5	97.2
52.3	61.7	64.1	80.5
72.7	57.4	71.5	82.8
75.9	68	23.9	97.3
72.1	71.5	60.8	80.1
45.4	66.2	32.2	94.2
81.5	63.4	32.3	110
59.8	63.1	37.5	89.6
69.2	63.2	49	94.7
67.6	64.8	66.8	•
59.8	67	51.4	91.8
69.8	64.4	21	91.5
71.3	63.4	37.2	87.3
62	71.9	59.2	55.7

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
28.5	59.2	62.5	78.2
38.5	73.6	34.7	104.8
69.5	62.7	36.8	98.7
40.7	65.9	24.4	88
63.5	55.3	23	98.5
59.6	70	57.2	100.3
58.5	71	64.6	99.3
47.9	79.5	22.8	96.4
69.8	62.2	38.6	96.6
53	67.8	61.4	83.5
65.8	62.6	16.8	103.5
49.8	72.5	36.3	91.4
76.5	60	65.6	29.5
38.1	66	33	86.4
63.4	60.5	25.1	95.1
68.8	73.3	70.4	91.5
68.9	61.5	71.2	75.8
55.5	58.4	41.1	98.5
29.2	69	29.5	94.1
33.9	65.2	67.1	69.8
21.8	54.2	59.9	95.2
17.7	61.3	36	88
19.1	59	35.3	126.9
11	60.9	24.7	45.1
21.2	61.6	38.4	89.7
81	60.6	26.2	99.7
67.5	57.6	67.7	94.4
67.5	67.2	53.4	94.1
82.5	68.5	72.7	85.9
60.6	58	37.4	83.6
75	41.7	23	83.4
47.9	74.6	23.5	102
77.9	57.9	55.5	101.3
31.3	66.4	88.2	87.6
70.7	73.7	33	96.3
41.2	58.1	68.4	101.6
66.2	63	59.3	90.9
59.8	70	39.4	52.2
64.9	68.9	48	87.8
59.1	64.3	20.6	97.2
66.4	63.8	22.5	91.3
64.9	73.8	67.4	70.2

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
66.1	57.3	61.5	97
67	74.2	34.2	103.5
67.6	67.7	24.7	98.1
65.8	68.6	49.2	85
71.5	63.2	30.4	84.8
67	62.6	28.7	87
62.2	59.6	23.4	94.2
42.6	58.8	27.3	87.7
61.6	67.9	18.4	94.3
62.5	51.2	68	89.8
73.8	56.8	40.9	93.4
63.7	68.4	34.7	96.2
64.4	67.2	34	84.7
34.2	64.9	13.5	91.7
26	52.2	19	98.4
60	66.2	23.7	91.4
70.7	62.2	26.9	84.4
59.8	55.2	26	95.8
45	62.4	26.8	90.5
54	68.5	24.3	89.5
55.8	68.2	23.1	96.2
48.2	70.9	19.6	90.3
66.1	66.4	47	101.9
29.9	66.5	49	93.2
36.8	51.4	34.4	90.9
66.1	61.2	55.9	91.4
38.4	65.5	41.2	86.5
11.7	68.6	42.6	77.4
15.1	55.3	25.2	93.4
43.8	61.9	36	91.7
52.3	86.8	30	80.2
65.5	67.9	29.5	99.2
83.1	84	29.5	94
59.3	71	43.3	88.1
48.4	67	30.5	59.2
77.3	58.5	33.4	97.5
78.2	69.1	28.3	98
65.5	72	25.1	91
61.9	68.1	25.1	101.8
62	55.5	28	83.2
38.9	59.1	32.9	85.7
57.9	72	22.9	90.9

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
63.2	65.5	24.2	101.4
69.5	64.8	19.9	83.9
66.3	61.8	22	103.6
69	71.7	16.5	96
60.7	63.6	19.3	97.8
72.8	51.1	30.6	59.2
68.3	58.6	56.5	87
73.8	68.5	44.5	76.1
62.8	70.3	37.2	101.3
66.7	72	30.6	82.2
39.1	57.3	31.1	101.8
24.5	60.3	28.8	92.4
57.9	50	23.7	112.5
47	59.5	15.6	94.2
66.5	70	31.9	88
61.9	33.6	36	93.6
69.2	43.1	31.2	103
47	47.1	26.4	96.4
25.6	69.8	23.9	73.8
64.5	76.2	28	83.5
60	50.5	28	89.4
72.9	50.1	17.1	94.6
72.5	62.6	20	79
45.7	59.4	21.4	87.3
60.3	62.4	28.3	80.7
60.7	66.7	28.3	101.9
43.5	58.5	28.6	93.2
65.5	61.1	22.2	87.6
68	58.1	37.7	85.4
13.8	43.6	27.6	89.2
27	53.5	25.4	92
48.1	67.5	49	97.8
11.3	61.8	20.4	93.1
23	59.2	32.6	78.1
69.2	33.3	20.6	88
43	57	27.1	81.3
14.7	56.6	33.7	73.8
39.9	59.4	43.5	91.8
25.3	66	25.9	57.2
13.4	64	26.8	82.3
28.9	67	34	87.2
14.6	60	25.2	91.6

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
16.1	61.9	27.2	62.3
14.5	28.9	32	47.5
18	28.9	23	59.8
14.7	49.9	22.6	57.9
11	45.1	33.8	52.2
	20.5	29.5	90.5
	21	24.8	•
	16.4	30.3	•
	11.2	24.7	•
	9.5	23.2	•
	15.1	24	•
	59	28.7	•
	64.7	30.4	•
	•	24	•
	•	20.5	•
	72.7	29.5	•
	73.2	25.3	•
	56.6	27.9	•
	62.4	25.2	•
	76.8	33.6	•
	52.7	46	•
	53.9	33.6	•
	59.5	28.1	•
	43.3	41.2	•
	76.7	22.8	•
	76.1	39.9	•
	68.2	28	•
	52.5	30.9	
	70.8	31.6	
	54.2	32.6	
	70.8	30.2	
	35.1	41.5	
	53.6	24.9	
	76.8	28.7	
	60.2	26.5	
	63.6	30.7	
	24.6	21.5	
	66.7	28	
	61.6	29.9	
	70.3	20	
	85.1	28.8	
	60.5	32.9	

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
	62.1	31.3	
	57.3	38.1	
	78.3	20.1	
	81.3	25.6	
	67.4	24.8	
	75.8	17.7	
	81.2	39.2	
	16	32.5	
	55.9	31.5	
	71.7	37.7	
	•	31.9	
	56.4	31	
	61.7	23.5	
	55.5	20.2	
	68.2	21.7	
	39.6	26.3	
	58.9	26.5	
	66.7	17	
	63.3	28.2	
	61.1	31.3	
	52.8	25.7	
	66.1	32.9	
	23.2	29.2	
	42.6	41.7	
	68.1	26.5	
	66.1	25.2	
	43.4	24.4	
	41	20.1	
	53.9	29	
	54.3	22.2	
	62	27	
	65.7	25	
	76.5	37.7	
	48.1	27.8	
	61.8	19.5	
	63.1	43.1	
	•	21.4	
	•	33.6	
	23.3	25.9	
	47.2	30	
	40.9	24.8	
	50.8	37.7	

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
	69.6	21.3	
	69	52.6	
	38.9	27.1	
	57.9	26.3	
	43.7	32.9	
	46.3	32.2	
	68.4	26.3	
	48.8	27.6	
		29.9	
		20.4	
		25.5	
		33	
		26.5	
		22.6	
		30.4	
		31	
		22.5	
		28.4	
		30.3	
		26.1	
		25.1	
		29.8	
		29.6	
		26.1	
		26	
		21.9	
		25	
		32.2	
		30.5	
		29.8	
		31.3	
		26	
		23	
		22.5	
		32.9	
		23.6	
		31.7	
		35.5	
		24.7	
		26.9	
		34.1	
		25.5	

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		23.1	
		33	
		30.3	
		25.8	
		32.8	
		20.5	
		34.4	
		23.5	
		19	
		24.5	
		21.7	
		21.8	
		32.9	
		29.8	
		23.5	
		27.3	
		26.6	
		22	
		26.2	
		22.3	
		20.8	
		21.3	
		24.8	
		34	
		35.6	
		27.1	
		25.4	
		42	
		32	
		29.4	
		23.3	
		27.9	
		35.3	
		34.2	
		31.1	
		18.6	
		22.4	
		23.6	
		27.7	
		32.3	
		32.4	
		24	

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		24.6	
		22.7	
		22.7	
		22.7	
		26.7	
		26.4	
		21	
		29.2	
		30.4	
		30.8	
		29.7	
		23.6	
		20.3	
		35.2	
		31.2	
		23.5	
		34.4	
		26.1	
		31.5	
		20.3	
		56.5	
		32.5	
		23.6	
		28.1	
		26.5	
		19.5	
		21.9	
		26.3	
		27	
		31	
		25.9	
		25.4	
		30.6	
		36.6	
		30.3	
		28.5	
		26.8	
		23.7	
		22.2	
		25.9	
		28	
		27.5	

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		21.4	
		34.6	
		19.2	
		23.2	
		26.1	
		27.9	
		37.2	
		31.8	
		28.5	
		29.6	
		36	
		26.6	
		28.1	
		29.9	
		32.1	
		25.1	
		35.6	
		19.2	
		38.8	
		36.1	
		29.5	
		24.4	
		34.6	
		27.5	
		23.4	
		25.4	
		26.9	
		21.3	
		31.9	
		26.9	
		27	
		22.3	
		23.1	
		19.5	
		26.4	
		20.3	
		23.4	
		29.5	
		35.5	
		39.4	
		29.8	
		16.8	

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		35.5	
		29.9	
		25	
		31.4	
		23.1	
		32.6	
		30.3	
		25.2	
		35.3	
		28.7	
		28	
		19.1	
		28.1	
		22.5	
		19.7	
		22.5	
		21.5	
		22.8	
		20.5	
		25.3	
		25.1	
		17	
		21.3	
		18.3	
		32.1	
		23.3	
		34.4	
		32.8	
		35.8	
		29.5	
		37.8	
		30.2	
		28	
		30.7	
		31	
		22.5	
		22.4	
		25.5	
		21	
		22.3	
		34.7	
		30.7	

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		27	
		26	
		23.9	
		30.2	
		24.8	
		20.3	
		21.1	
		20	
		21.5	
		21.3	
		21.6	
		22.6	
		25.4	
		24.2	
		22.4	
		23.4	
		21.8	
		21	
		16.4	
		22	
		23.8	
		23.9	
		18.2	
		26.2	
		19.2	
		20.3	
		19.9	
		18.6	
		28.1	
		26.2	
		24.9	
		26.1	
		26.9	
		28.3	
		26.1	
		27.7	
		18.2	
		20.2	
		24.2	
		24.3	
		19.9	
		20.5	

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		25.1	
		19.3	
		18.9	
		16.9	
		21.3	
		20.1	
		21.2	
		16.3	
		19.7	
		19.5	
		23.3	
		25.2	
		33.2	
		29.9	
		30.3	
		21.3	
		31.2	
		22.4	
		30.1	
		23.5	
		19.2	
		22.1	
		18	
		23.3	
		24.5	
		27.7	
		28.5	
		29.3	
		20.2	
		22.2	
		18.7	
		22.7	
		21.2	
		19.1	
		21.5	
		20	
		22.1	
		19.8	
		19.4	
		15.3	
		17	
		16.2	

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		19.2	
		15.5	
		20.2	
		16.8	
		16.3	
		18.7	
		16.2	
		17	
		25.4	
		24	
		21.1	
		21.6	
		20.2	
		15.9	
		17.8	
		15.9	
		16.7	
		16.4	
		18.2	
		19.5	
		17.3	
		16.8	
		18.2	
		16.3	
		17.3	
		20	
		16.4	
		17.9	
		17.7	
		16.9	
		18.3	
		17.7	
		18.4	
		16.8	
		16.5	
		15.7	
		15.5	
		17.3	
		17.7	
		15.9	
		15.2	
		36.1	

Ring Collections: BH, GC 234, GC 272

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		62.8	
		24.4	
		33.4	
		30.8	
		27.5	
		27.5	
		16.5	
		12.7	
		22	
		8	
		71.4	
		48	
		67.4	
		20.7	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
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		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		2.5	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		7.7	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		11.5	
		12.5	

BH ring #1 3288 (mm)	BH ring #2 3288 (mm)	GC 234 3283 (mm)	GC 272 3534 (mm)
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	
		12.5	

Chemical parameters measured from micro-habitat locations in beds of seep mytilids.

	Place	Mean (mM)	Range	n(0)	n(Tot)
HYDROCARBON SEEPS					
ΣCO2	siphon	2.619	2.117-3.096	0	11
	5cm below	3.092	2.018-11.308	0	29
	10cm below	2.89	2.439-5.280	0	8
ΣH2S	siphon	0.02	0.000-0.179	8	9
	5cm below	1.585	0.000-7.956	7	10
	10cm below	0.073	0.000-0.220	2	3
O2	siphon	0.079	0.000-0.370	1	8
	5cm below	0.059	0.000-0.162	3	8
	10cm below	0.052	0.000, 0.104	1	2
N2	siphon	0.755	0.334-2.126	0	10
	4cm below	0.766		0	1
	5cm below	0.62	0.403-0.960	0	26
	7.5cm below	0.758		0	1
	10cm below	0.584	0.396-0.832	0	6
CH4	siphon	0.13	0.000-0.832	3	10
	2cm below	0.002		0	1
	4cm below	0		1	1
	5cm below	0.907	0.000-10.744	11	28
	7.5cm below	0.002	0.000, 0.004	1	2
	10cm below	0.411	0.000-1.076	1	6
salinity	siphon	3.7	3.5-3.8	0	4
	5cm below	3.7	3.5-3.8	0	21
	10cm below	3.7	3.6-3.8	0	5
pH	siphon	8.393	7.978-8.800	0	8
	2cm below	8.34		0	1
	4cm below	8.551		0	1
	5cm below	8.337	8.170-8.601	0	9
	7.5cm below	8.366	8.211, 8.520	0	2

SALINE SEEP: GC233

	Place	Mean (mM)	Range	n(0)	n(Tot)
HYDROCARBON SEEPS					
ΣCO_2	siphon	2.68	2.478-2.916	0	10
	2.5cm	2.604	2.246-2.872	0	6
	5cm	3.926	2.346-17.212	0	18
	10cm	3.799	2.817-4.691	0	4
	among	3.673	2.246-17.212	0	29
	brine	6.618	4.922, 8.313	0	2
ΣS	siphon	0.002	0.000-0.020	10	11
	2.5cm	0		6	6
	5cm	1.3456	0.000-13.296	6	10
	10cm	0.758	0.457-0.951*	0	4
	among	0.841	0.000-13.296	12	16
	brine	0		2	2
O_2	siphon	0.049	0.000-0.134	2	11
	2.5 cm	0.063	0.012-0.128	0	6
	5cm	0.032	0.000-0.110	3	10
	10cm	0.018	0.000-0.033*	1	4
	among	0.044	0.000-0.128	3	16
	brine	0		1	1
N_2	siphon	0.539	0.322-0.748	0	11
	2.5cm	0.588	0.500-0.678	0	6
	5cm	0.413	0.192-0.676	0	19
	10cm	0.426	0.153-0.746	0	4
	among	0.452	0.153-0.746	0	30
	brine	0.445			1
CH_4	siphon	0.222	0.020-0.648	0	11
	2.5cm	0.161	0.016-0.720	0	6
	5cm	3.858	0.042-17.266	0	19
	10cm	4.229	1.079-10.116	0	4
	among	3.206	0.016-17.266	0	30
	brine	21.159	17.602,24.715	0	2
Salinity	siphon	3.8	3.7-4.1	0	9
	2.5cm	3.8	3.7-4.0		5
	5cm	4.9	3.8-9.0	0	17
	10cm	5.7	4.3-8.0	0	4
	among	4.9	3.7-9.0	0	27
	brine	10.5			1

	Place	Mean (mM)	Range	n(0)	n(Tot)
HYDROCARBON SEEPS					
pH	siphon	8.077	7.665-8.602	0	11
	2.5cm	8.005	7.730-8.320	0	6
	5cm	7.781	7.125-8.236	0	9
	among	7.87	7.125-8.320	0	15
	brine	7.59			1
Brine pool mussel serum:					
ΣCO_2		4.063	3.639-4.831	0	13
ΣS		0		13	13
O_2		0.008	0.000-0.022	2	13
N_2		0.536	0.465-0.685	0	13
CH_4		0.047	0.000-0.132	2	13
pH		7.371	7.241-7.563	0	13

Morphometric data for the tube worm *Escarpia* sp., 1991-1993.

Escarpia sp. data for 1991-1993

Dive	Wet Weight (g)	Ash-free Dry Weight (g)	Tube Length (cm)	Inner Diameter Anterior Opening	Water Content (% Wet Weight)	Lipid Content (% Wet Weight)
3137	15.132	3.156	41.5	10	76.07	5.71
3137	8.915	1.836	36.5	7.7	76.62	3.07
3137	17.216	3.515	45.5	9.9	76.68	4.88
3137	13.88	3.479	46.5	10.4	72.15	6.04
3137	3.887	0.985	23.5	7.3	71.87	4.35
3137	3.695	1.741	28.5	6.5		
3141	13.017	1.553	74	8	84.87	1.89
3141	19.901	2.629	95	8.3	83.58	2.2
3141	15.598	2.779	85	8.5	79.09	2.64
3141	21.307	2.432	106	8.8	85.36	1.6
3145	7.162	1.628	42.5	8	73.79	5.79
3145	6.188	1.288	38.5	7.1	76.12	2.91
3145	5.866	1.56	46	6.8	70.37	
3145	11.31	2.812	47.5	8	72.52	6.07
3145	8.481	1.96	42	7.3	73.8	4.22
3145	5.44	1.087	40	7.3	77.35	3.01
3145	7.383	1.504	30.5	7.5	76.3	2.75
3145	8.488	2.288	48.5	9.1	70.32	4.32
3145	5.162	1.453	37	7.4	69.26	7.64
3145	9.944	2.346	47.5	8.5	73.53	5.24
3145	6.362	1.373	40	6.5	75.57	3.01
3145	5.67	1.469	31.5	8	71.19	7.79
3145	1.884	0.584	28.5	6.3	66.34	
3149	2.546	0.617	25	6	72.68	3.02
3149	1.399	0.252	18.5	5.8	78.69	1.91
3149	2.293	0.432	21.5	5.5	78.41	2.47
3526	14.977	4.152	70.3	8.6	69.48	5.09
3526	13.666	3.03	79.5	8.2	74.96	4.73
3532	14.74	3.364	87.5	9.3	74.22	

Escarpia sp. data for 1991-1993

Dive	Wet Weight (g)	Ash-free Dry Weight (g)	Tube Length (cm)	Inner Diameter Anterior Opening	Water Content (% Wet Weight)	Lipid Content (% Wet Weight)
3532	20.795	3.838	86	12	78.64	2.82
3532	18.257	3.352	86.3	9.1	78.64	4.12
3532	29.155	3.849	104	9.8	83.84	2.28
3532	7.224	1.007	105	6.6	82.87	
3532	17.295	4.209	85	11.4	72.84	5.1
3530	10.904	2.29	57.5	9	75.77	
3530	24.251	6.441	73.6	10.6	70.91	
3530	14.36	3.08	63	10.4	75.57	
3530	8.601	1.677	47.3	7.3	77.57	1.8
3530	12.421	2.377	62.5		77.46	
3530	8.795	1.887	52.3	8.7	75.39	4.21

Morphometric data for the tube worm *Lamellibrachia* sp., 1991-1993.

Lamellibrachia sp. data for 1991-1993

Dive	Wet Weight (g)	Ash-free Dry Weight (g)	Tube Length (cm)	Inner Diameter Anterior Opening	Water Content (% Wet Weight)	Lipid Content (% Wet Weight)
3137	8.616	1.938	56	9.5	74.39	4.38
3137	7.244	0.731	48	7.1	86.39	0.92
3137	8.39	1.348	64.5	7.1	80.34	3.26
3137	5.241	1.042	49.5	6	76.92	2.09
3137	9.241	1.466	59	8.4	80.95	2.11
3137	0.806	0.12	25.5	3.5	81.66	1.53
3145	9.33	1.769	90.5	4.8	77.59	3.02
3149	1.485	0.255	26.2	4	78.88	2.07
3149	0.973	0.183	23.5	3.4	78.1	1.95
3149	0.966	0.164	25	3.5	79.75	1.85
3281	22.355	3.243	184.5	9	82.53	3.12
3281	10.801	0.586	107.9		91.27	0.68
3281	12.602	0.732	132.4	5.4	90.85	0.41
3281	7.581	0.648	160	4.7	88.08	1
3281	9.951	0.759	115.4	5.1	89.14	0.55
3281	9.305	1.022	142		85.95	1.8
3281	7.897	1.052	110.1	5.8	83.5	1.9
3281	15.126	2.128	144	6.9	82.58	2.57
3281	9.617	0.925	104.7	5.6	87.39	1.11
3281	4.447	0.493	97	5.1	85.78	1.13
3281	6.273	0.904	122.9	6.4	82.89	1.74
3281	8.605	0.935	120.2		85.77	1.22
3281	26.852	3.844	261.3	7.6	82.4	2.77
3281	7.26	1.102	110.1	5.1	81.94	1.47
3281	10.766	0.93	130.8	5.9	87.99	1.08
3281	11.065	1.93	199	7.05	79.67	2.54
3281	16.182	1.524	140.5	4.1	87.4	1.32
3284	2.484	0.473	19.8	6.8	77.57	2.39
3284	10.805	1.842	67.6	7.3	79.91	1.79

Lamellibrachia sp. data for 1991-1993

Dive	Wet Weight (g)	Ash-free Dry Weight (g)	Tube Length (cm)	Inner Diameter Anterior Opening	Water Content (% Wet Weight)	Lipid Content (% Wet Weight)
3284	2.178	0.198	23.4	5.4	88.75	2.53
3284	2.798	0.378	31.8	4.6	83.25	1.67
3284	5.128	0.717	47.9	5.5	83.03	1.63
3284	1.96	0.172	33.5	3.3	89.1	3.3
3284	2.721	0.457	34.2	4.2	79.92	1.24
3523	6.474	0.641	82.3	6	87.19	
3523	11.031	0.83	120	5.5	89.24	
3523	22.311	2.011	146.5	6.2	87.7	1.22
3523	26.689	3.152	195	7.6	85.11	1.24
3523	10.777	1.35	115	6.1	84.63	1.79
3523	9.08	0.83	99	5.5	87.57	1.08
3523	20.29	1.834	172	6.5	87.62	
3523	19.565	1.995	187.7	7.5	86.72	
3523	12.663	1.559	110	6.2	84.64	
3523	9.99	1.067	120.5	5.4	86.06	
3526	17.298	3.892	145.7	6.9	74.47	
3526	16.163	3.884	144.5	7.6	73.14	5.16
3526	16.166	4.3	139.9	8.3	70.44	
3526	21.812	5.556	160.7	7.4	71.5	4.73
3532	14.791	1.312	139	6.8	88	
3532	9.482	1.409	142	7.6	82.07	1.94
3532	11.785	1.603	130	6.3	83.23	1.73
3532	19.558	1.664	173	7.4	88.25	1.34
3532	12.289	1.478	98		84.82	1.25
3532	17.261	2.28	122	7.4	83.76	
3530	6.502	1.169	77	5.3	78.77	2.76
3530	17.222	0.732	104	7.6	75.75	2.71
3530	11.862	2.524	52.5	8.3	75.68	
3530	21.599	4.484	125.5	8.7	76.37	

Lamellibrachia sp. data for 1991-1993

Dive	Wet Weight (g)	Ash-free Dry Weight (g)	Tube Length (cm)	Inner Diameter Anterior Opening	Water Content (% Wet Weight)	Lipid Content (% Wet Weight)
3530	14.588	2.623	109	7.5	78.98	
3530	5.496	1.175	84	5.8	75.5	
3535	9.826	1.801	53	8	78.62	3.6
3535	10.51	1.979	57.5	7.4	77.8	3.89
3535	7.513	1.363	82.7	7.1	78.85	3.55
3535	7.037	1.261	55	6.5	79.14	2.15
3535	5.014	0.916	41.5	6	78.88	2.54
3535	5.731	1.17	42	6.7	76.47	2.08
3535	7.487	1.357	42.7	6.8	79.1	
3535	8.587	1.747	56.3	7.4	77.21	1.99

Site	Banding Dive #	Animal Tag	Species	91-92 Growth	1992 Dive #	92-93 Growth	1993 Dive #
BH	3129	Green 2	La	7 mm (rc)	3270		3531
BH	3129	Green 4	La	13 mm (rc)	3270		3531
BH	3140	Green 9	Es	0 mm (rc)	3270	-1 mm (vm)	3532
BH	3140	Red 10	Es		3270	0 mm (rc)	3532
BH	3140	Green 11	Es	-1 mm (vm)	3270	0 mm (rc)	3532
BH	3140	Red 11	Es	0 mm (rc)	3270	0 mm (rc)	3532
BH	3140	Red 12	La	16 mm (vm)	3270	1 mm (vm)	3532
BH	3141	Red 15	La		3270	0 mm (rc)	3530
BH	3141	Green 16	Es	11 mm (rc)	3270	0 mm (rc)	3530
BH	3290	Red 13	Es		3290	0 mm (rc)	3542
BH	3290	White 13	Es		3290	0 mm (rc)	3542
BH	3290	White 14	Es		3290	0 mm (rc)	3542
GC234	3142	Green 17	La	18 mm (vm)	3266		3525
GC234	3142	Red 17	La	0 mm (rc)	3266	0 mm (rc)	3525
GC234	3142	Green 18	La	0 mm (rc)	3266	0 mm (rc)	3525
GC234	3142	Red 18	La	0 mm (rc)	3266	0 mm (rc)	3525
GC234	3143	Red 21	La	3 mm (vm)	3266		
GC234	3143	Red 23	La	20 mm (rc)	3266		
GC234	3143	Green 24	La	0 mm (rc)	3266		
GC234	3143	Red 24	La	0 mm (vm)	3266		

Chemical parameters measured from micro-habitat locations among clusters of vesicomyid clams at hydrocarbon seeps.

GC272 Vesicomyid Microhabitat Parameters

	Place	Mean (mM)	Range	n(0)	n(Tot)
Salinity	5cm int	3.7	3.6-3.8		7
	10cm int	3.6	3.6,3.6		2
ΣCO_2	among	2.751	2.670, 2.832	0	2
	5cm int	2.391	1.672-3.089	0	9
	10cm int	2.483	2.454,2.512	0	2
ΣS	among	0		2	2
	5cm int	0		2	2
O_2	among	0.256	0.230,0.282	0	2
	5cm int	0.203	0.166,0.240	0	2
N_2	among	0.83	0.766-0.894	0	2
	5cm int	0.705	0.511-1.190	0	9
	10cm int	0.656	0.603-0.709	0	2
CH_4	among	0		0	2
	5cm int	0.129	0.000-0.471	6	9
	10cm int	0.464	0.030,0.897	0	2
pH	among	8.406	8.174, 8.638		2
	5cm int	8.676	8.454, 8.898		2
Clam serum:					
Vesicomya cordata:					
	ΣCO_2	3.02	2.621-3.249	0	3
	$\Sigma S=$	0.107	0.000-0.322	2	3
	O_2	0.035	0.000-0.090	1	3*
	N_2	0.492	0.486-0.503	0	3
	CH_4	0		3	3
Sample w/S had no O2.					
Calyptogena ponderosa:					
	ΣCO_2	3.107	2.680-4.359	0	9
	$\Sigma S=$	0.007	0.000-0.059	8	9*
	O_2	0.048	0.000-0.112	2	9
	N_2	0.546	0.503-0.612	0	9
	CH_4	0		9	9
	pH	7.191	7.1200-7.2400	0	5

Chemical parameters measured from micro-habitat locations in clusters of seep tube worms.

	Place	Mean (mM)	Range	n(0)	n(Tot)
ΣCO2	among	2.582	1.941-2.952	0	29
	5cm int	2.391	2.163-2.898	0	9
	7.5cm int	3.008		0	1
	10cm int	3.239	2.127-8.774	0	26
ΣH2S	among	<0.001	0.000-0.015	23	26
	5cm int	0.012	0.000, 0.024	1	2
	7.5cm int	0		1	1
	10cm int	0.226	0.000-1.172	5	12
O2	among	0.139	0.000-0.366	1	26
	5cm int	0.155	0.154, 0.156	0	2
	7.5cm int	0.04		0	1
	10cm int	0.049	0.000-0.200	2	11
N2	among	0.817	0.258-2.188	0	29
	5cm int	0.537	0.277-1.038	0	9
	7.5cm int	2.006		0	1
	10cm int	0.788	0.358-1.988	0	25
CH4	among	0.016	0.000-0.326	23	29
	5cm int	0.595	0.000-2.846	7	9
	7.5cm int	0		1	1
	10cm int	0.26	0.000-2.406	23	26
sal	among	3.7	3.6-3.9		17
	5cm int	3.8	3.7-3.8		6
	10cm int	3.8	3.5-4.2		18
pH	among	8.3598	7.2760-9.0500		24
	5cm int	8.6615	8.3730, 8.9500		2
	7.5cm int	8.87			1
	10cm int	8.6518	6.8600-9.2950		10
Lamellobranchia blood:					
ΣCO2		4.47	3.000-6.096	0	15
ΣH2S		0.003	0.000-0.015	13	15
O2		0.054	0.000-0.285	1	15
N2		0.551	0.464-0.736	0	15
CH4		0.009	0.000-0.084	12	15
pH		7.384	7.135-7.710	0	15

Seep Tube Worm Microhabitat Parameters

	Place	Mean (mM)	Range	n(0)	n(Tot)
Escarpia blood:					
ΣCO_2		4.754	3.716-5.757	0	6
ΣH_2S		0.011	0.000-0.015	4	6
O_2		0.032	0.000-0.068	1	6
N_2		0.705	0.520-1.149	0	6
CH_4		0.002	0.000-0.012	5	6
"CO"		0.037	0.000-0.160	2	6
pH		7.381	7.297-7.480	0	5

Appendix D

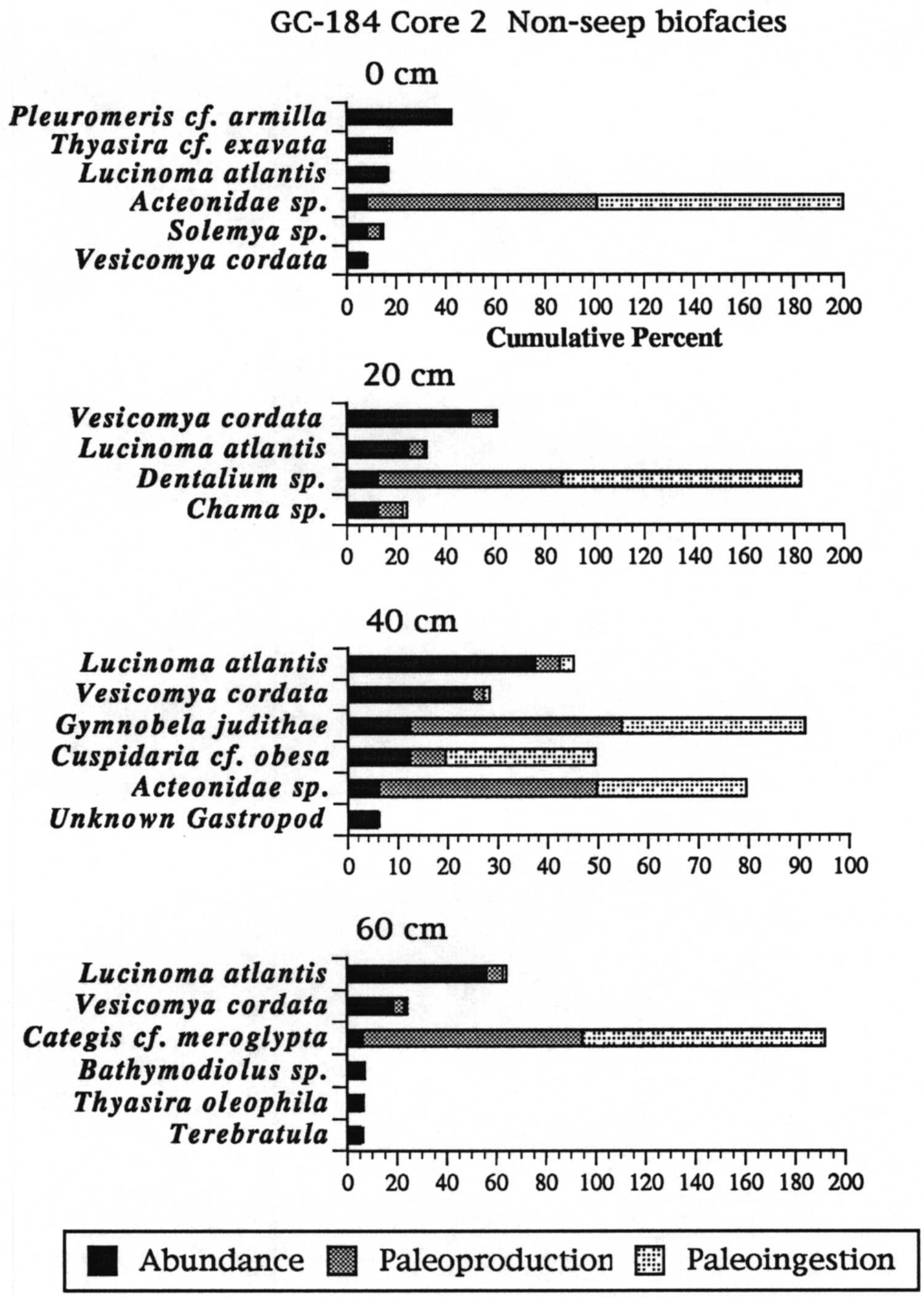


Figure D.1. The species composition of the non-seep biofacies at GC-184 Core 2. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

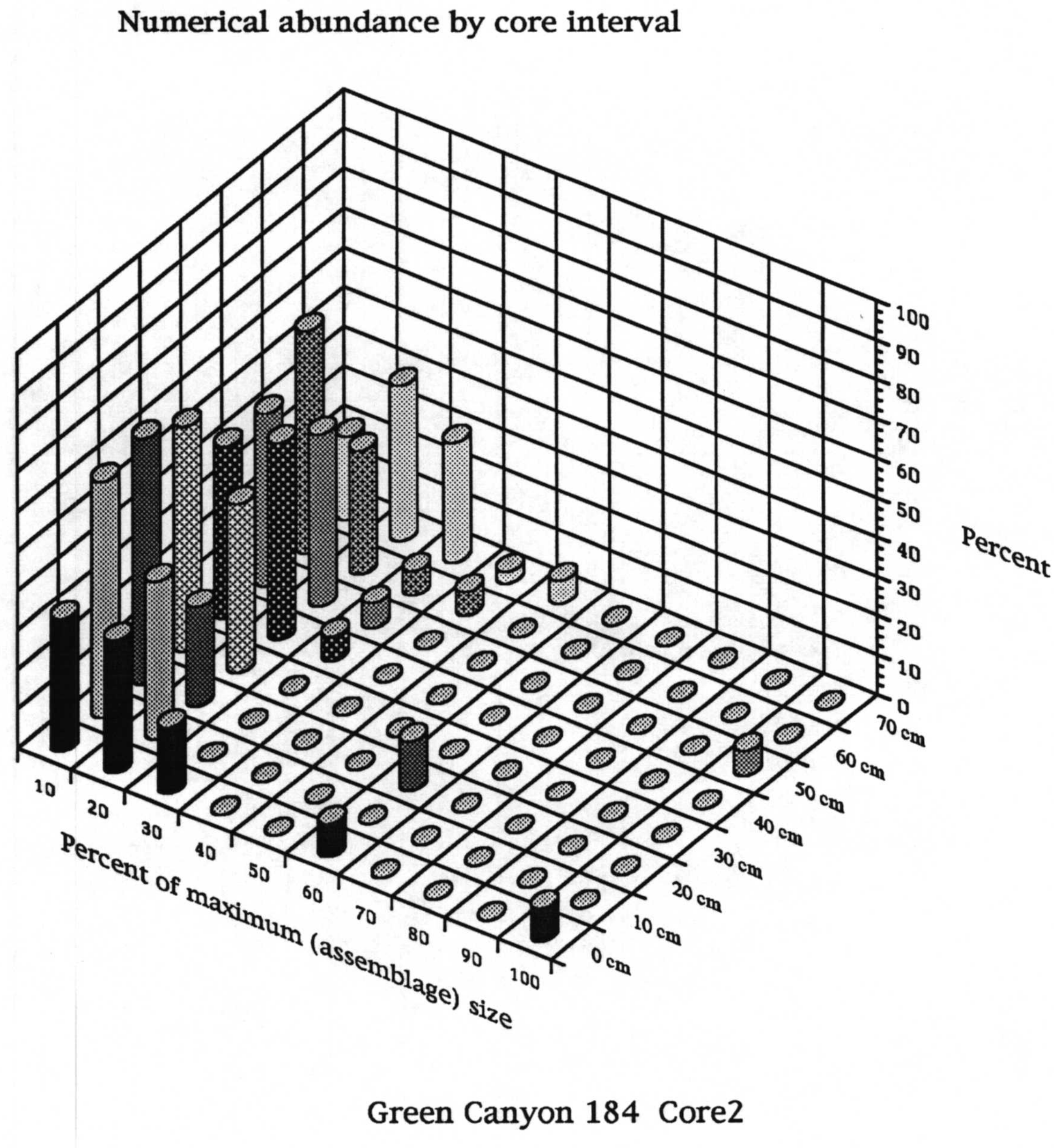


Figure D.2. The size-frequency distribution for 5 cm core intervals at GC-184 Core 2. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

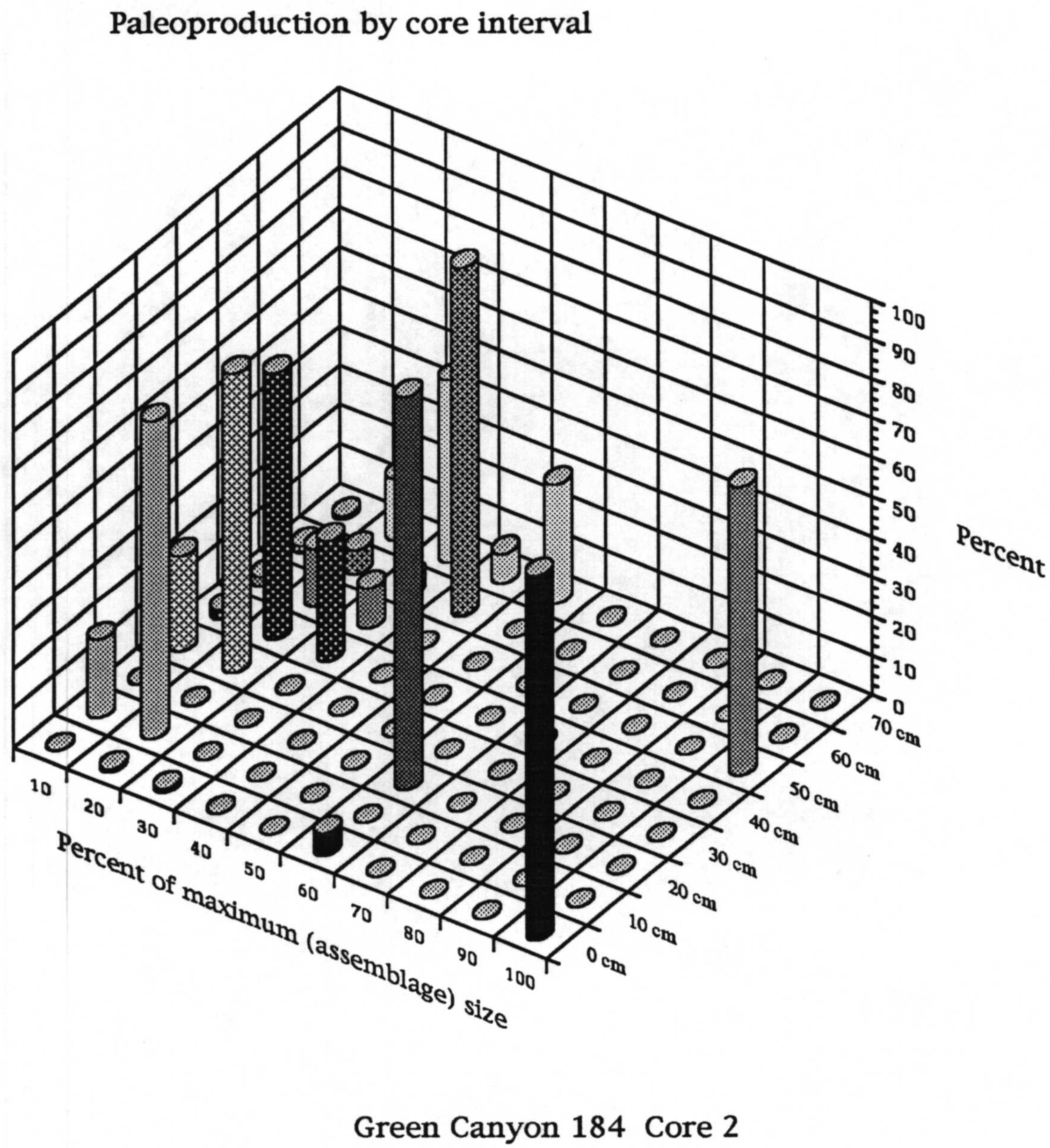
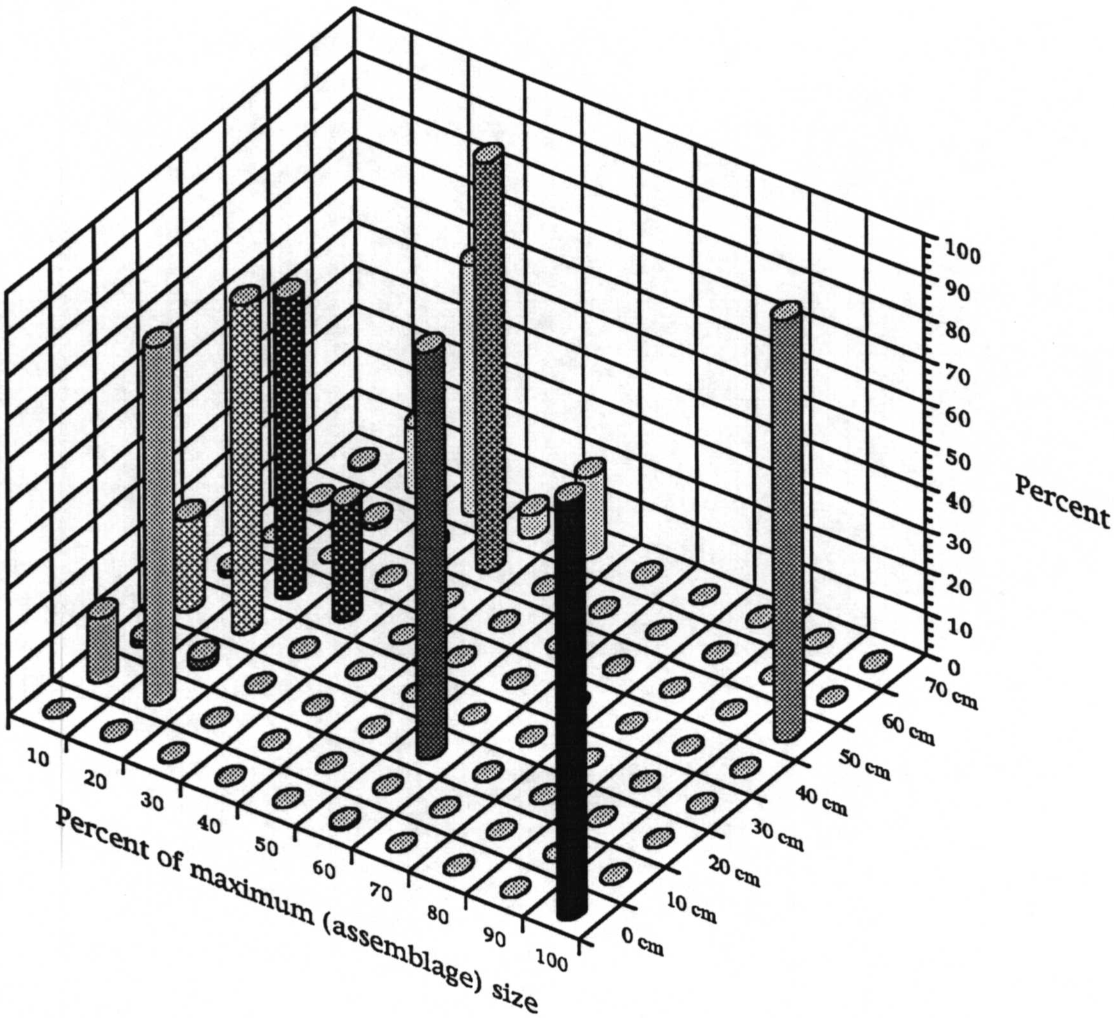


Figure D.3. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GC-184 Core 2. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Paleoingestion by core interval



Green Canyon 184 Core 2

Figure D.4. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GC-184 Core 2. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

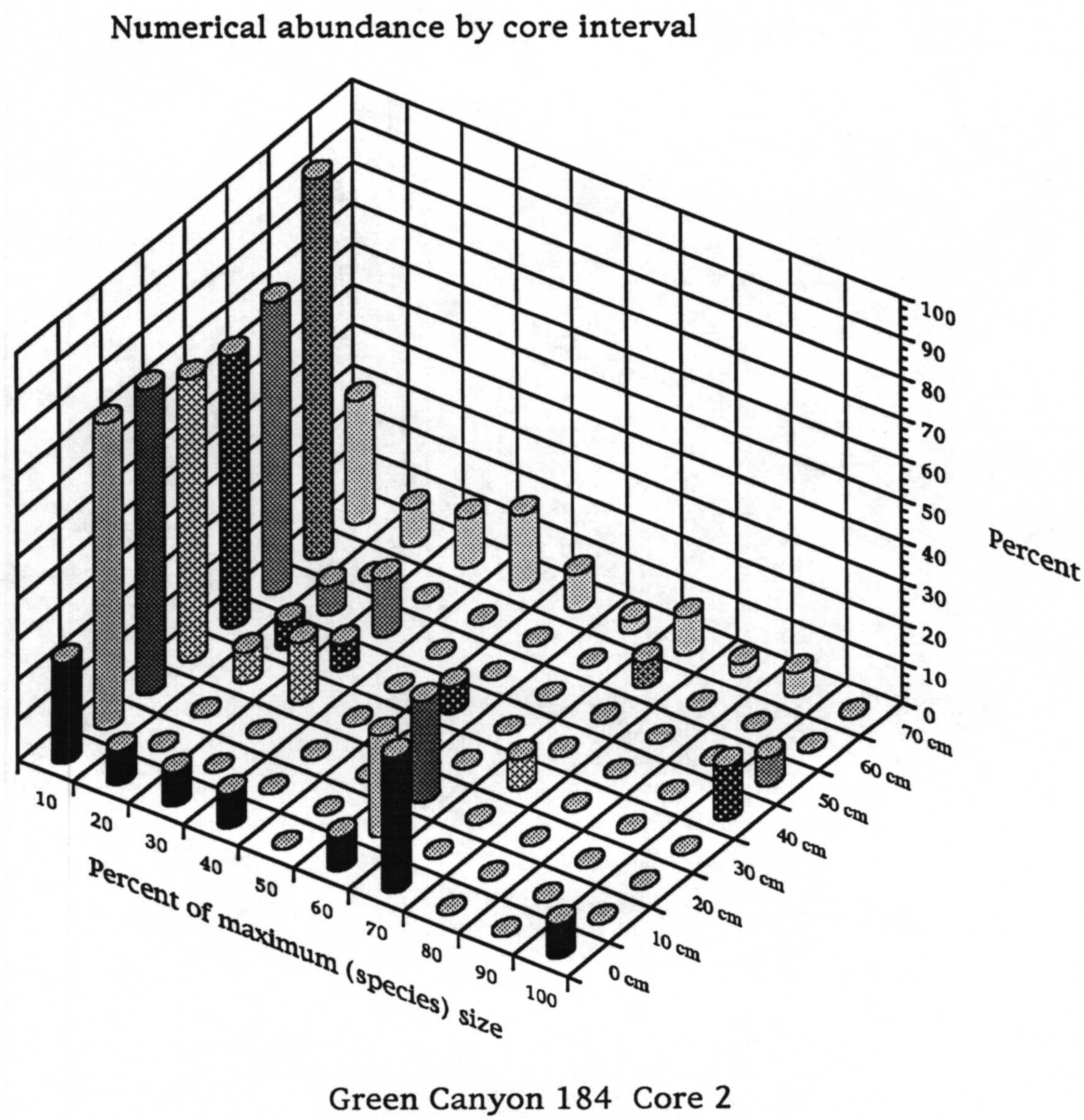
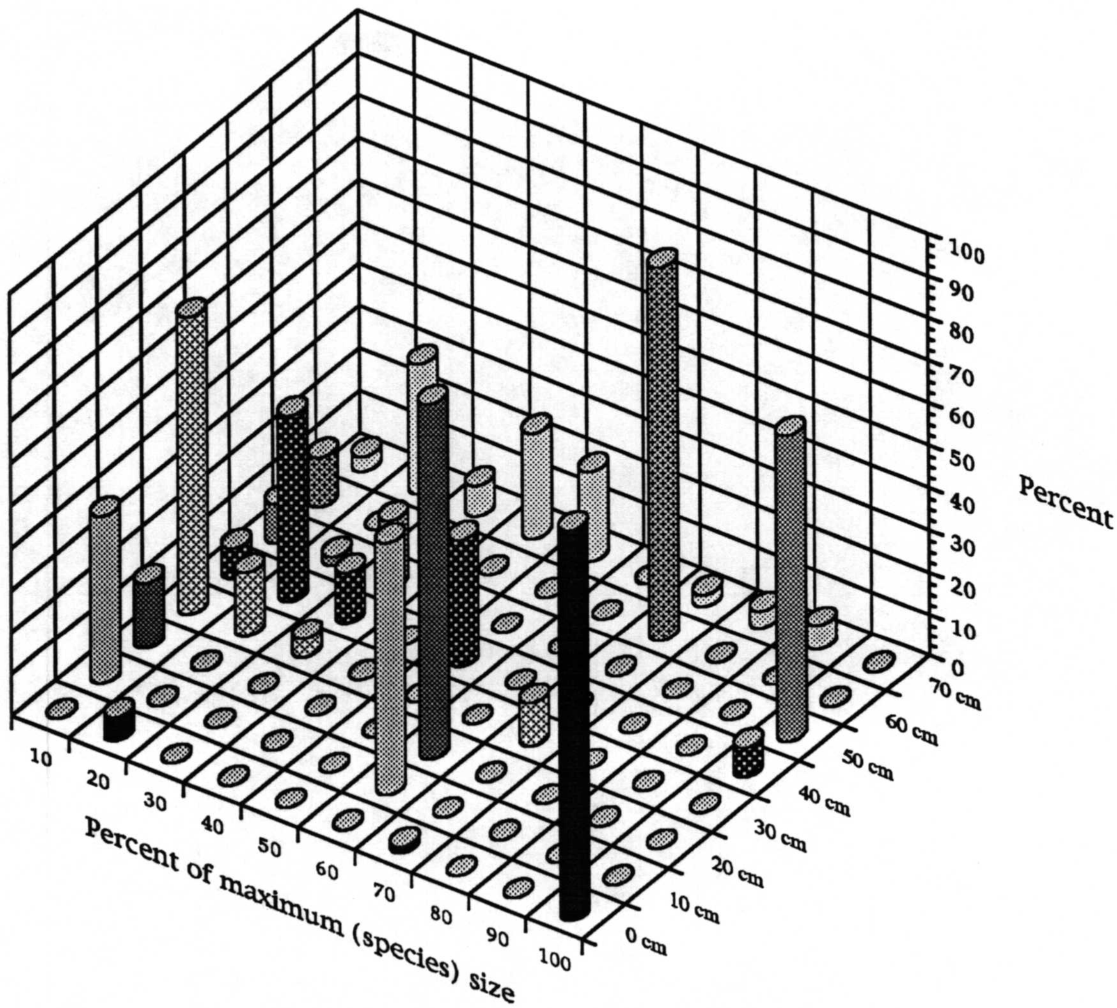


Figure D.5. The size-frequency distribution for 5 cm core intervals at GC-184 Core 2. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

Paleoproduction by core interval



Green Canyon 184 Core 2

Figure D.6. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GC-184 Core 2. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

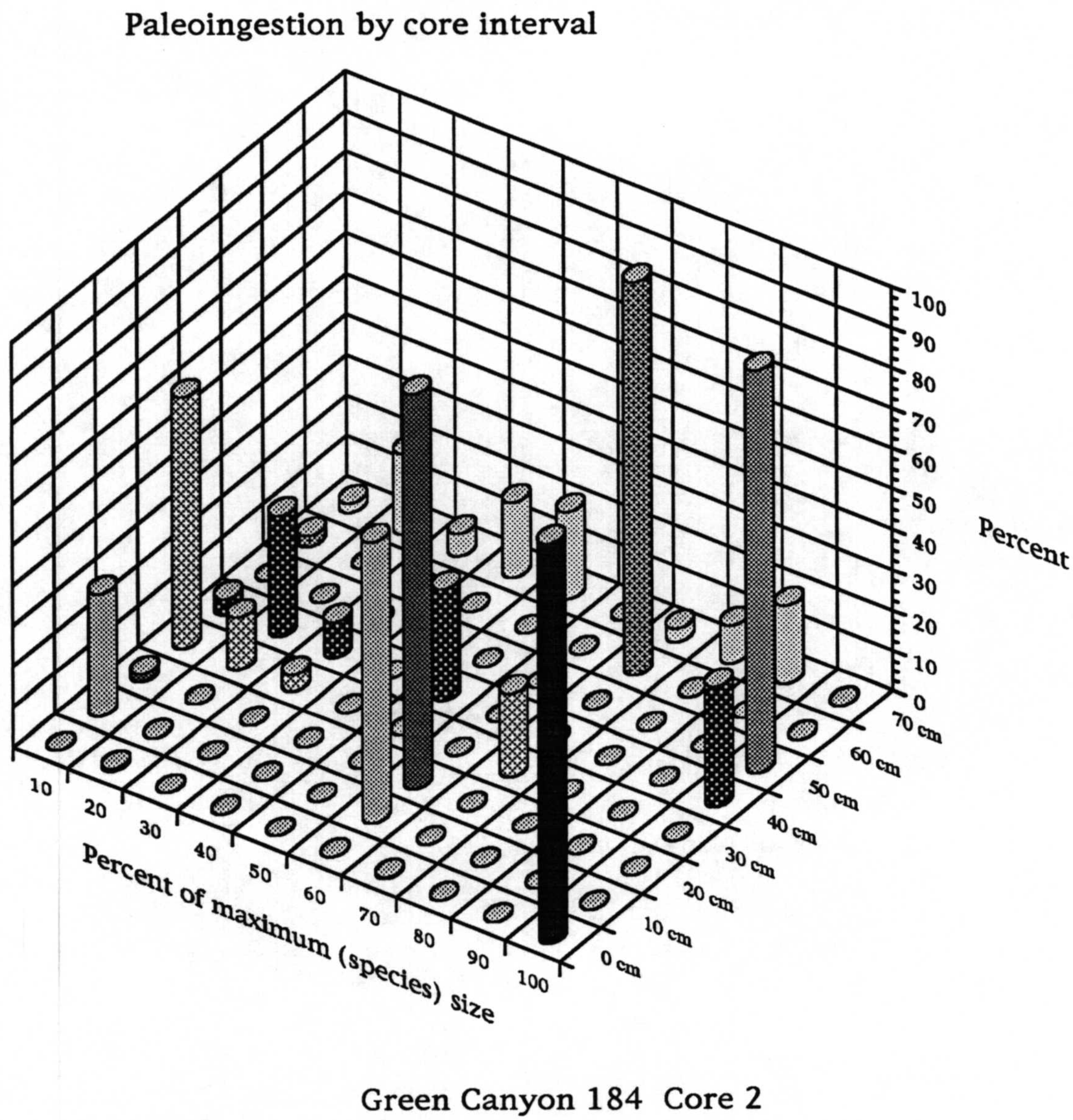


Figure D.7. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GC-184 Core 2. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

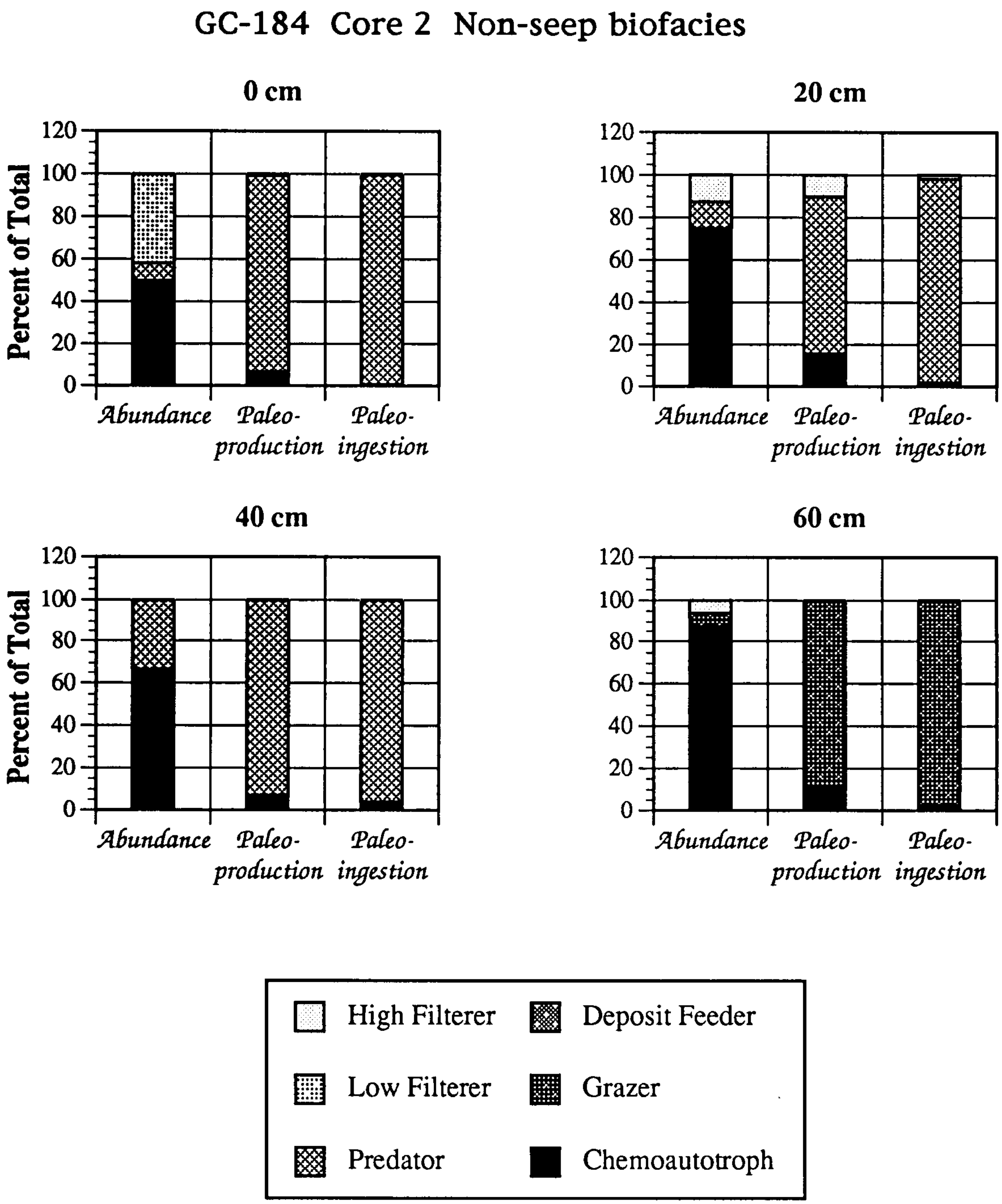


Figure D.8. The cumulative feeding guild structure of several core intervals from the non-seep biofacies at GC-184 Core 2, defined by numerical abundance, paleoproduction, and paleoingestion.

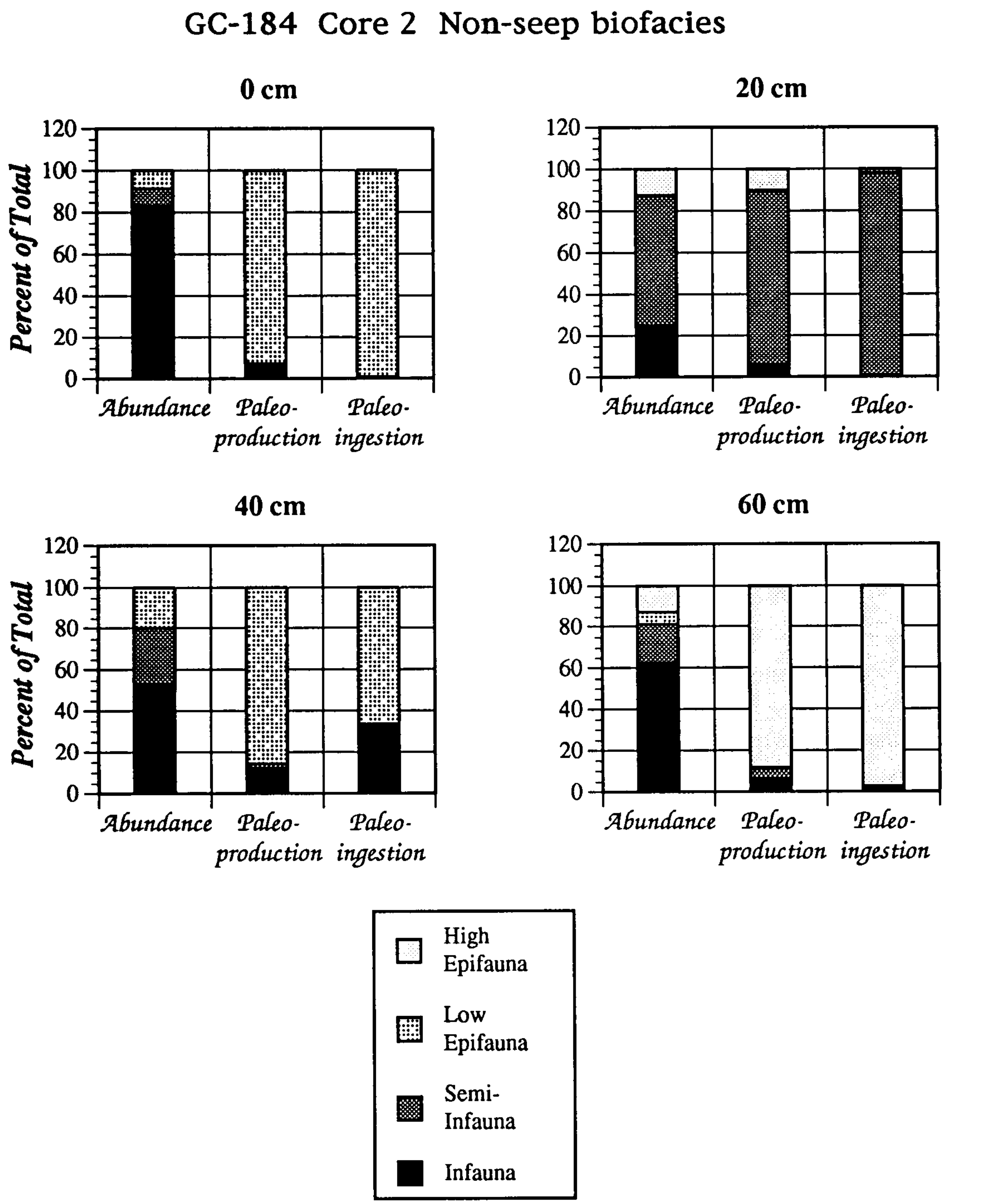


Figure D.9. The cumulative habitat tier structure of several core intervals from the non-seep biofacies at GC-184 Core 2, defined by numerical abundance, paleoproduction, and paleoingestion.

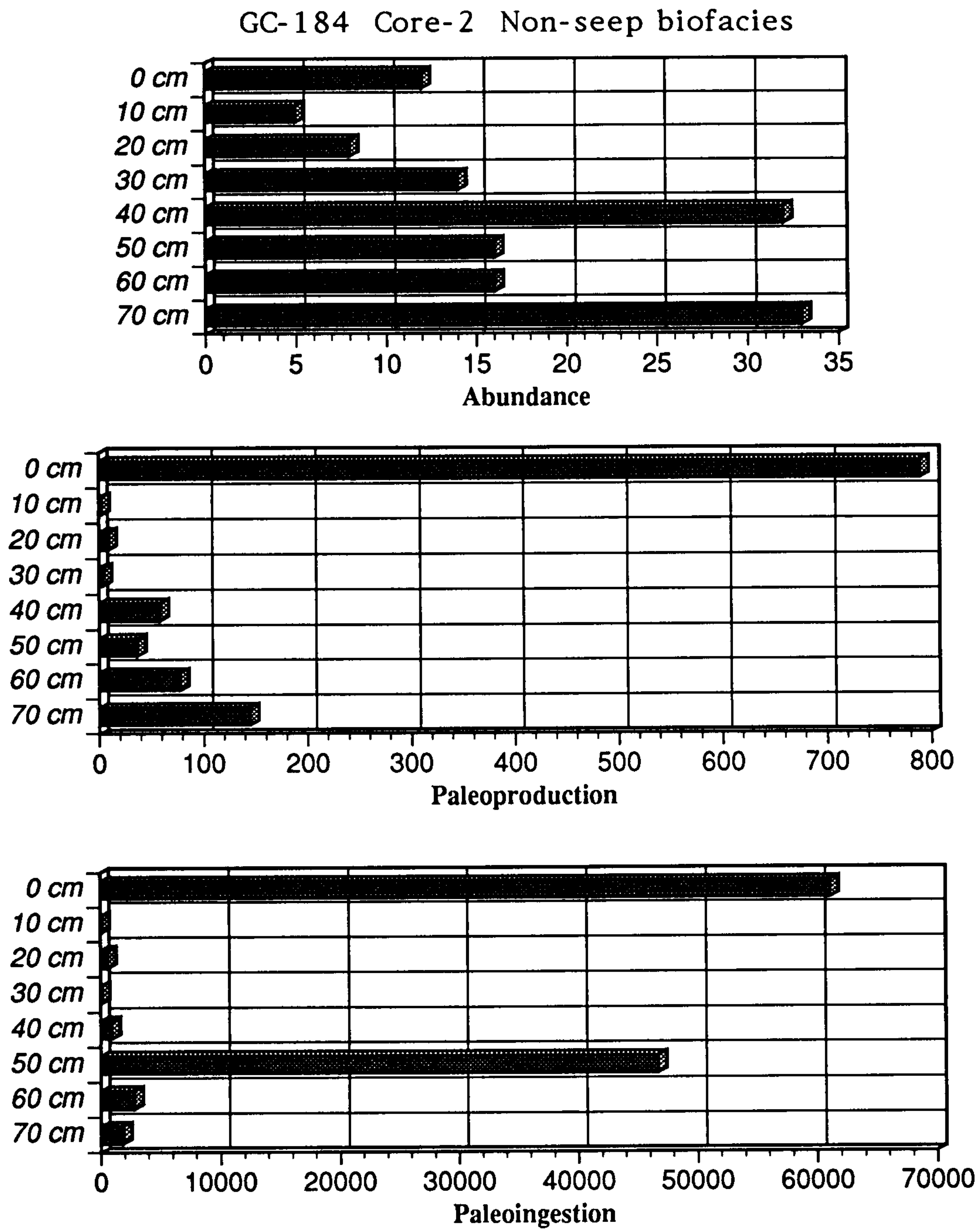


Figure D.10. The numerical abundance, paleoproduction, and paleoingestion contributed by each 5 cm core interval from the non-seep biofacies at GC-184 Core 2.

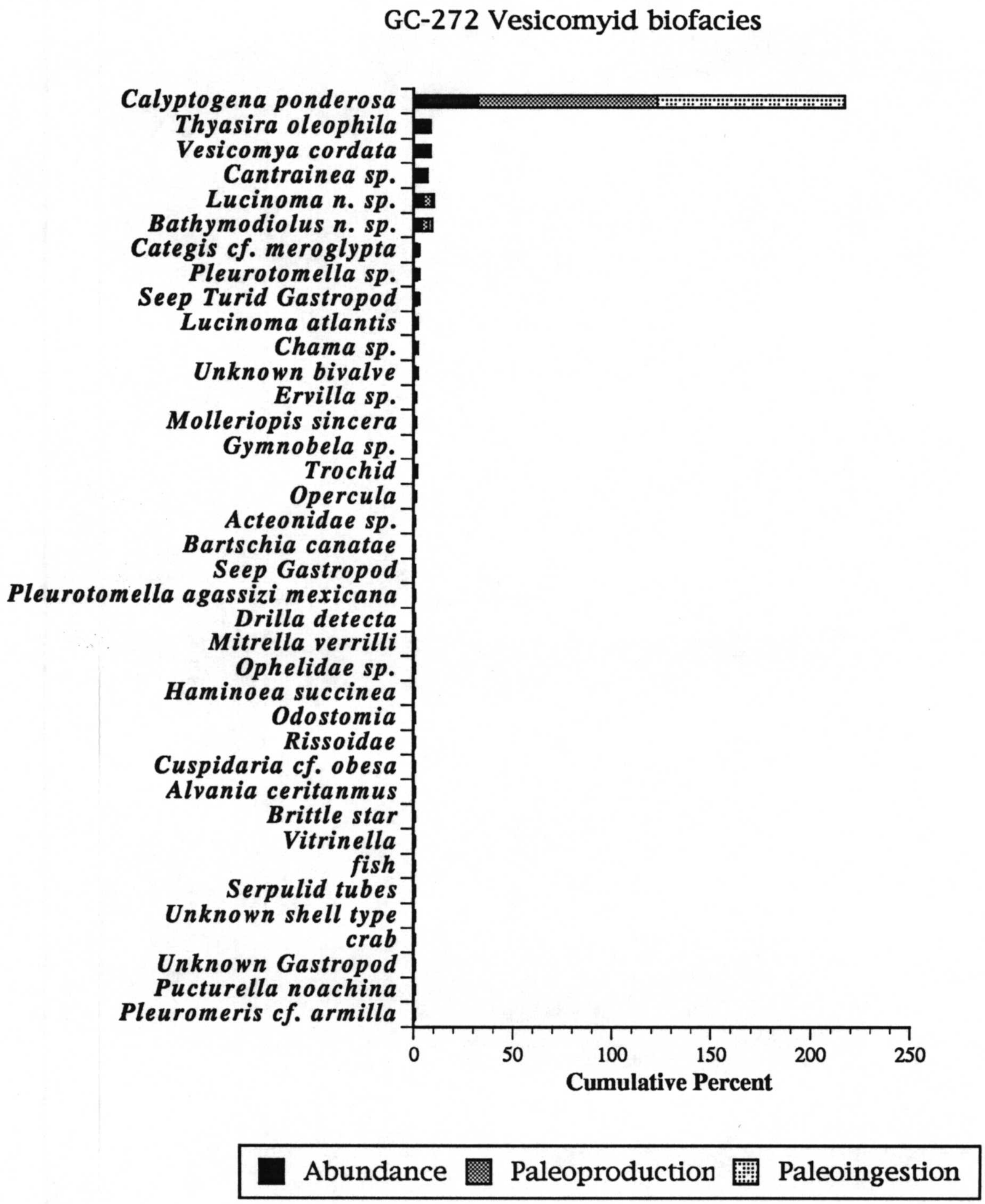
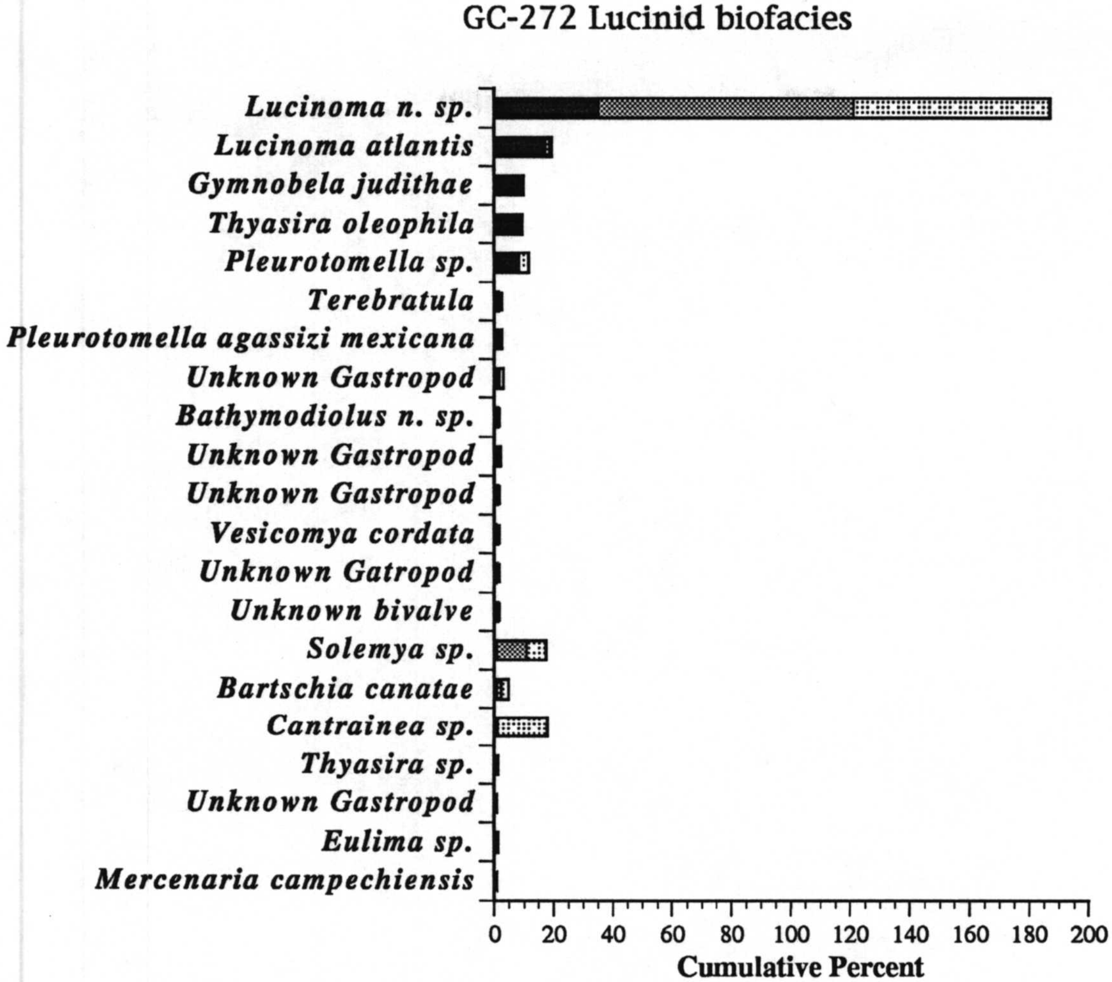


Figure D.11. The species composition of the vesicomyid biofacies at GC-272 Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.



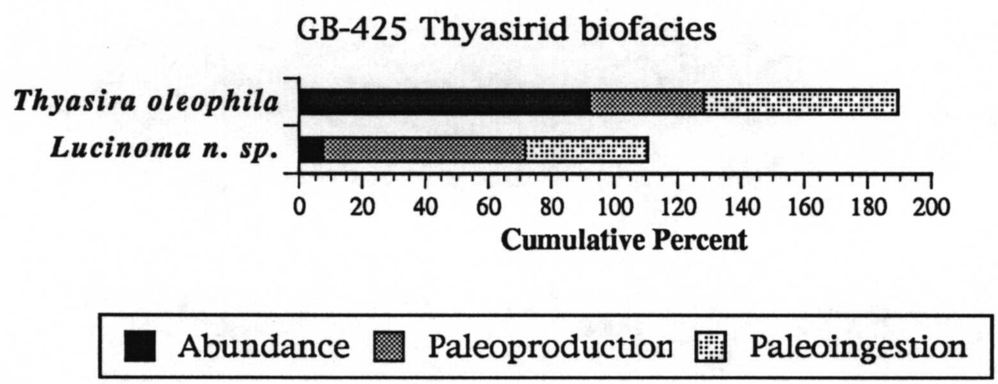
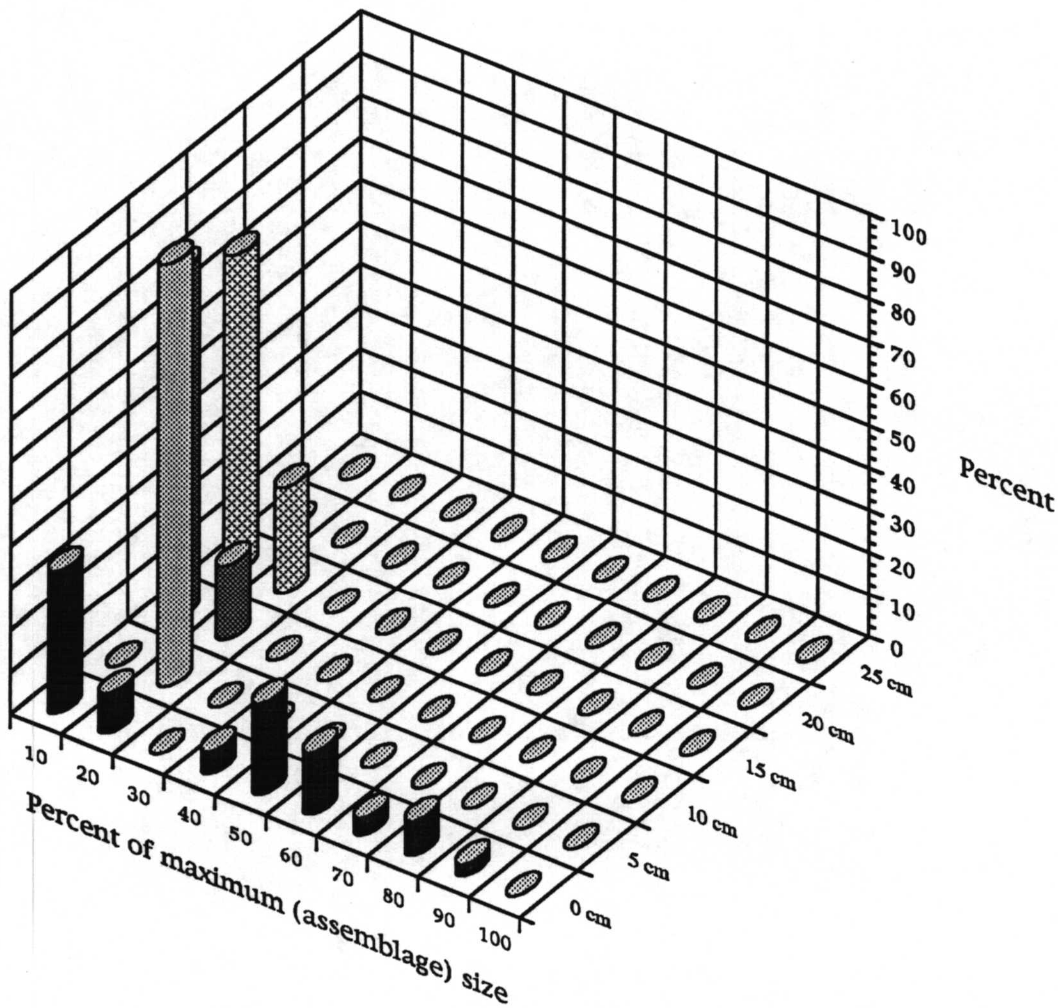


Figure D.12. The species composition of the lucinid and thyasirid biofacies at GC-272 and GB-425, respectively. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

Numerical abundance by core interval



Green Canyon 272

Figure D.13. The size-frequency distribution for 5 cm core intervals at GC-272. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

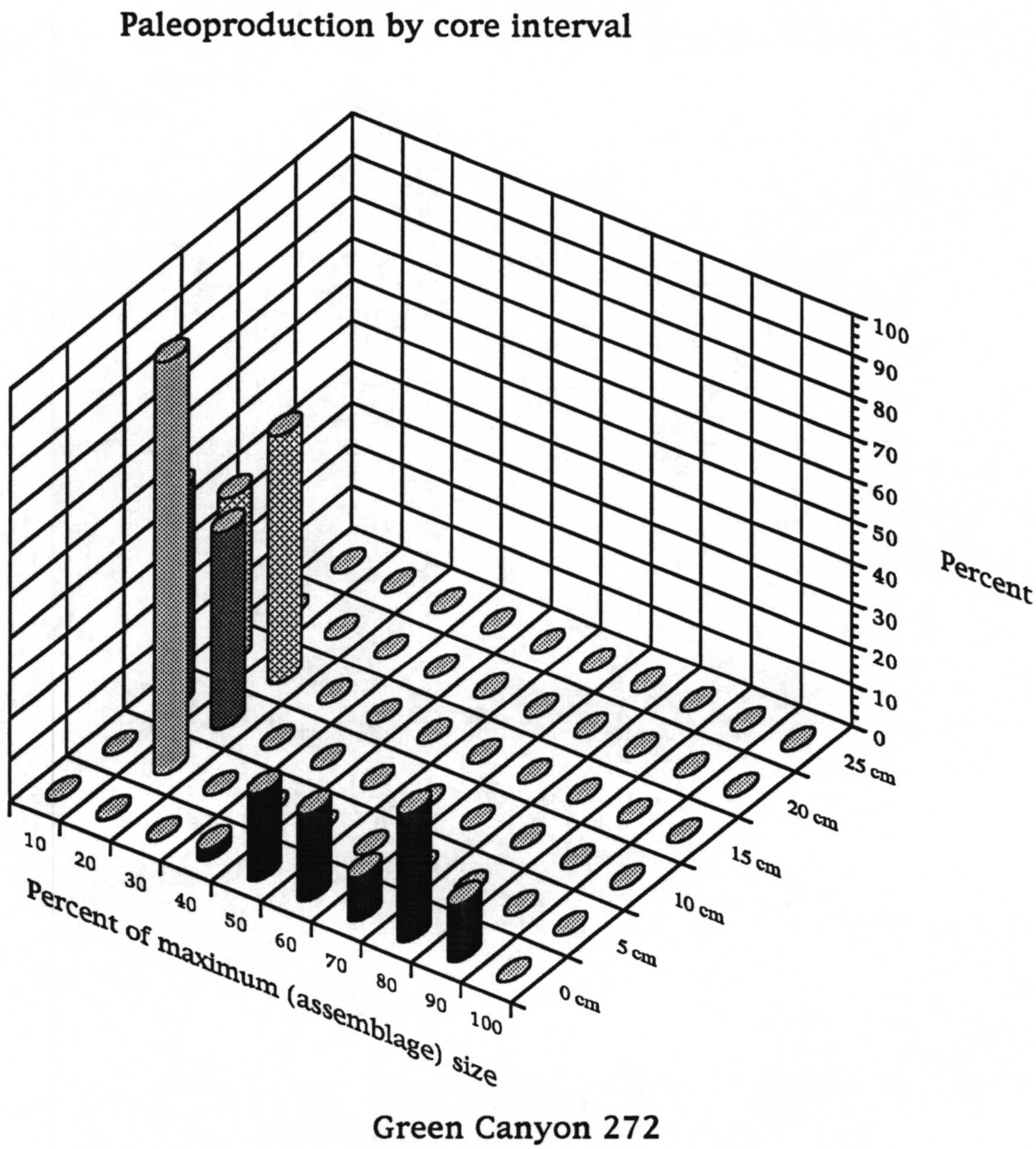


Figure D.14. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GC-272. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

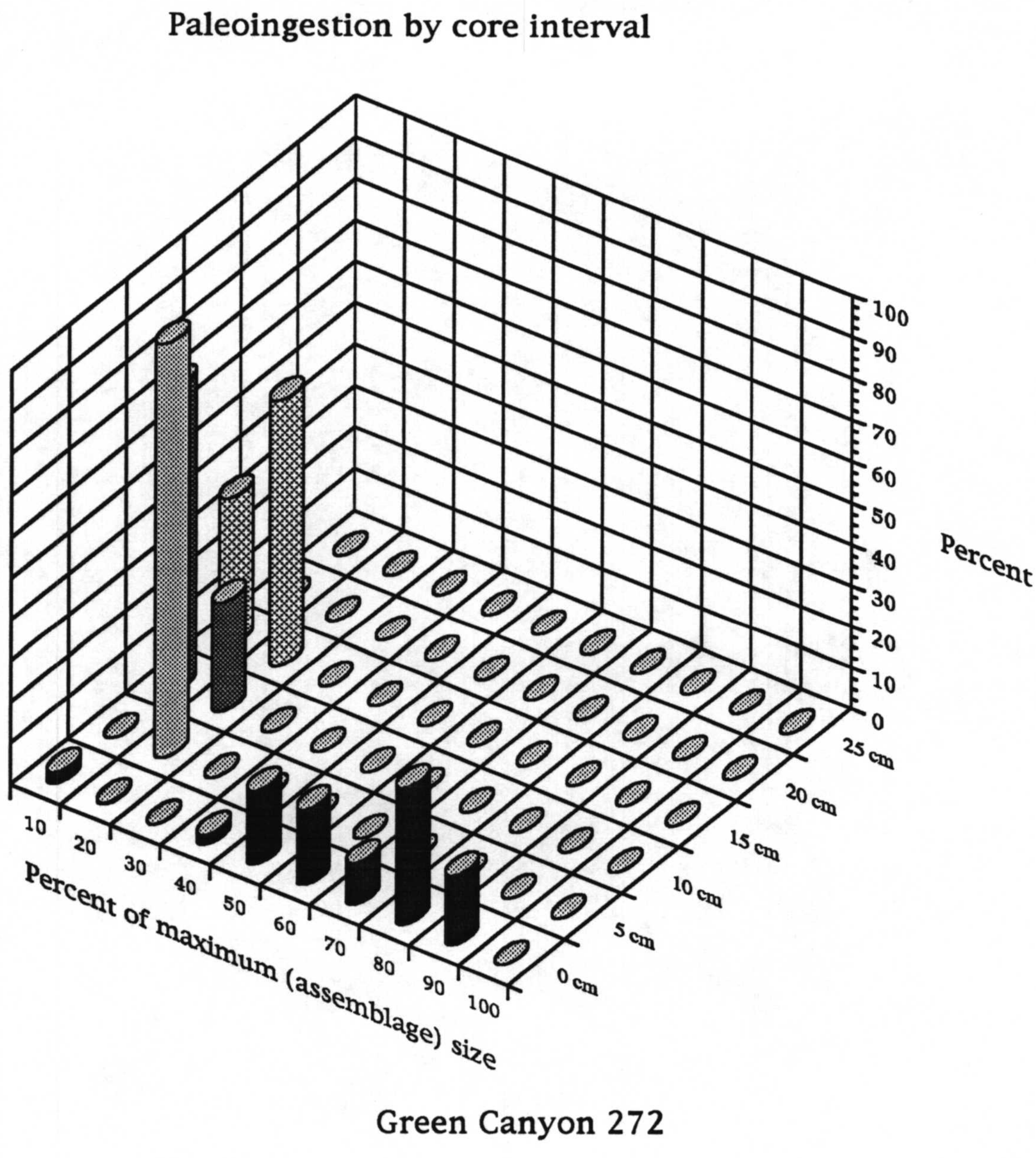


Figure D.15. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GC-272. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

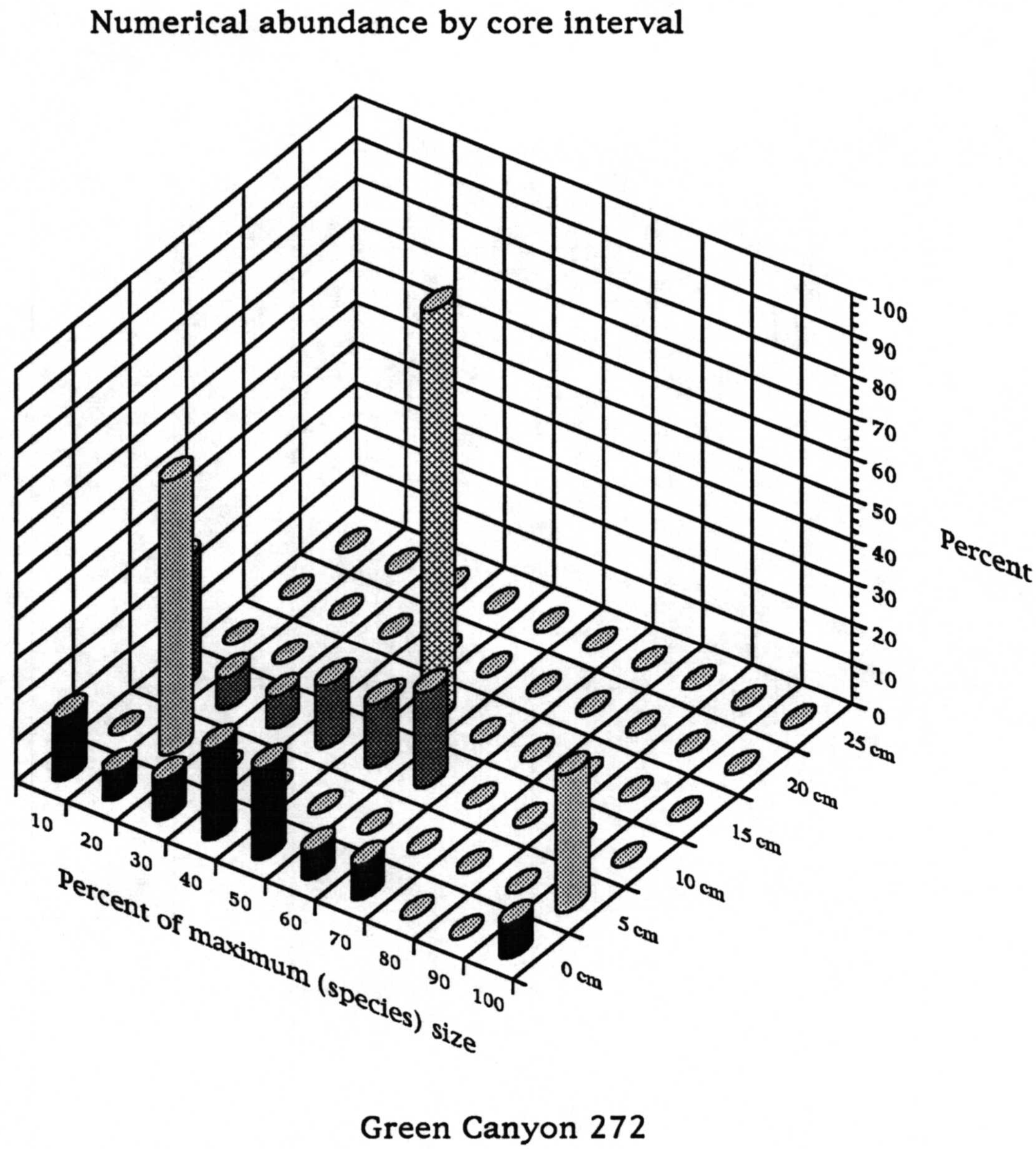
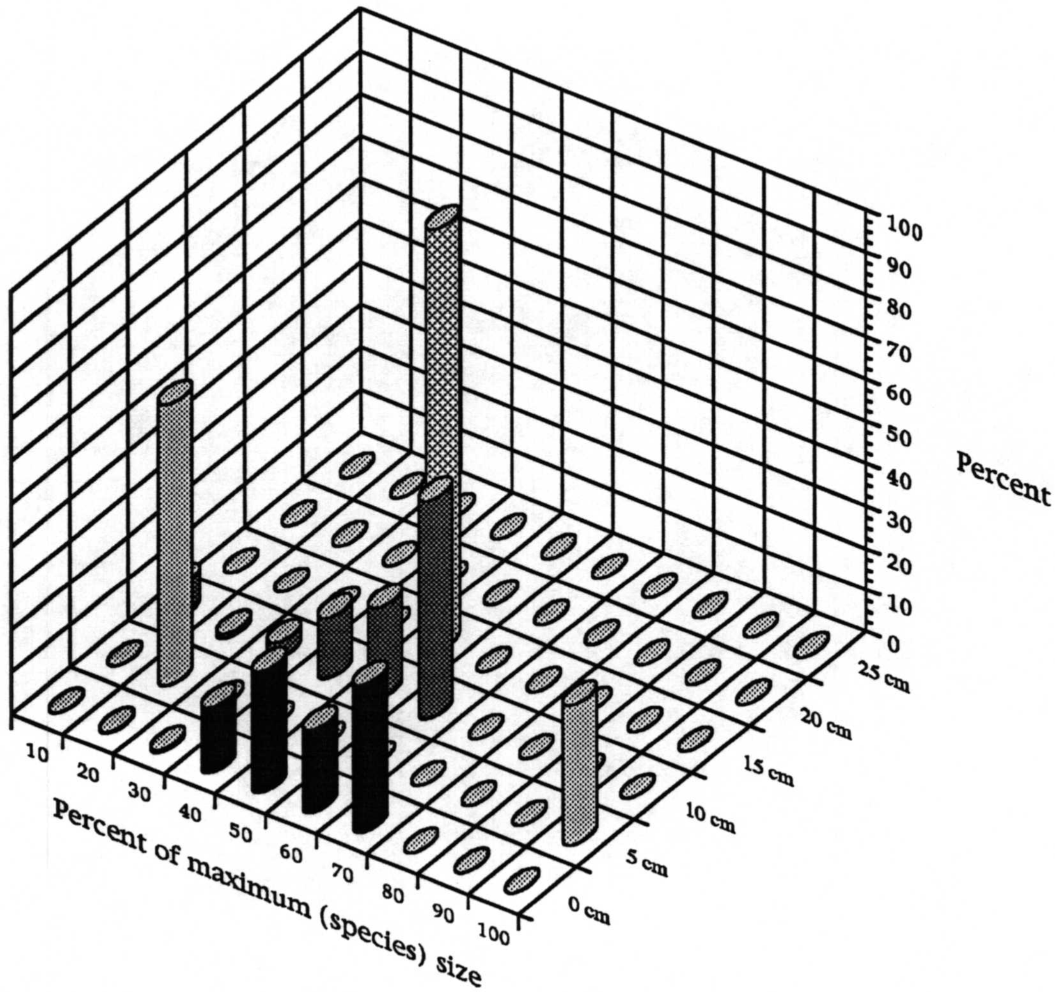


Figure D.16. The size-frequency distribution for 5 cm core intervals at GC-272. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

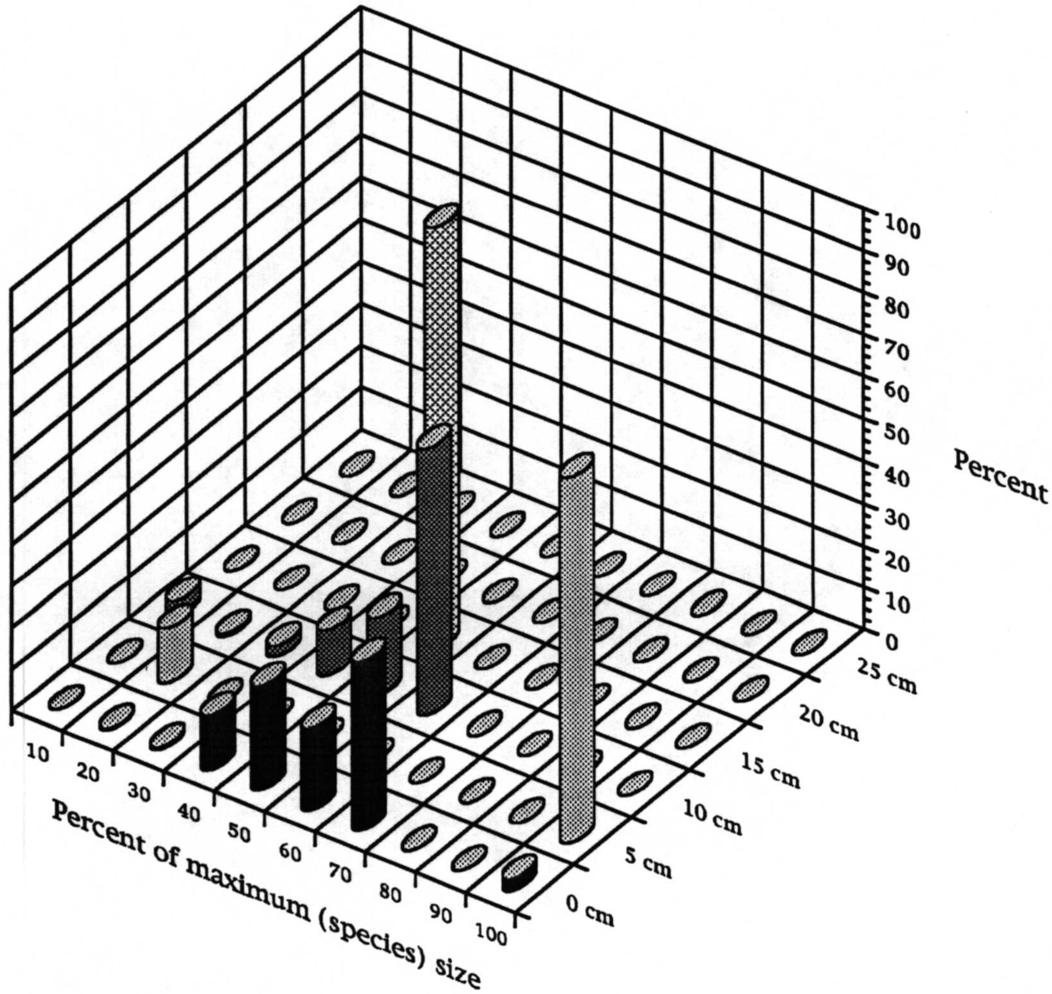
Paleoproduction by core interval



Green Canyon 272

Figure D.17. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GC-272. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Paleoingestion by core interval



Green Canyon 272

Figure D.18. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GC-272. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

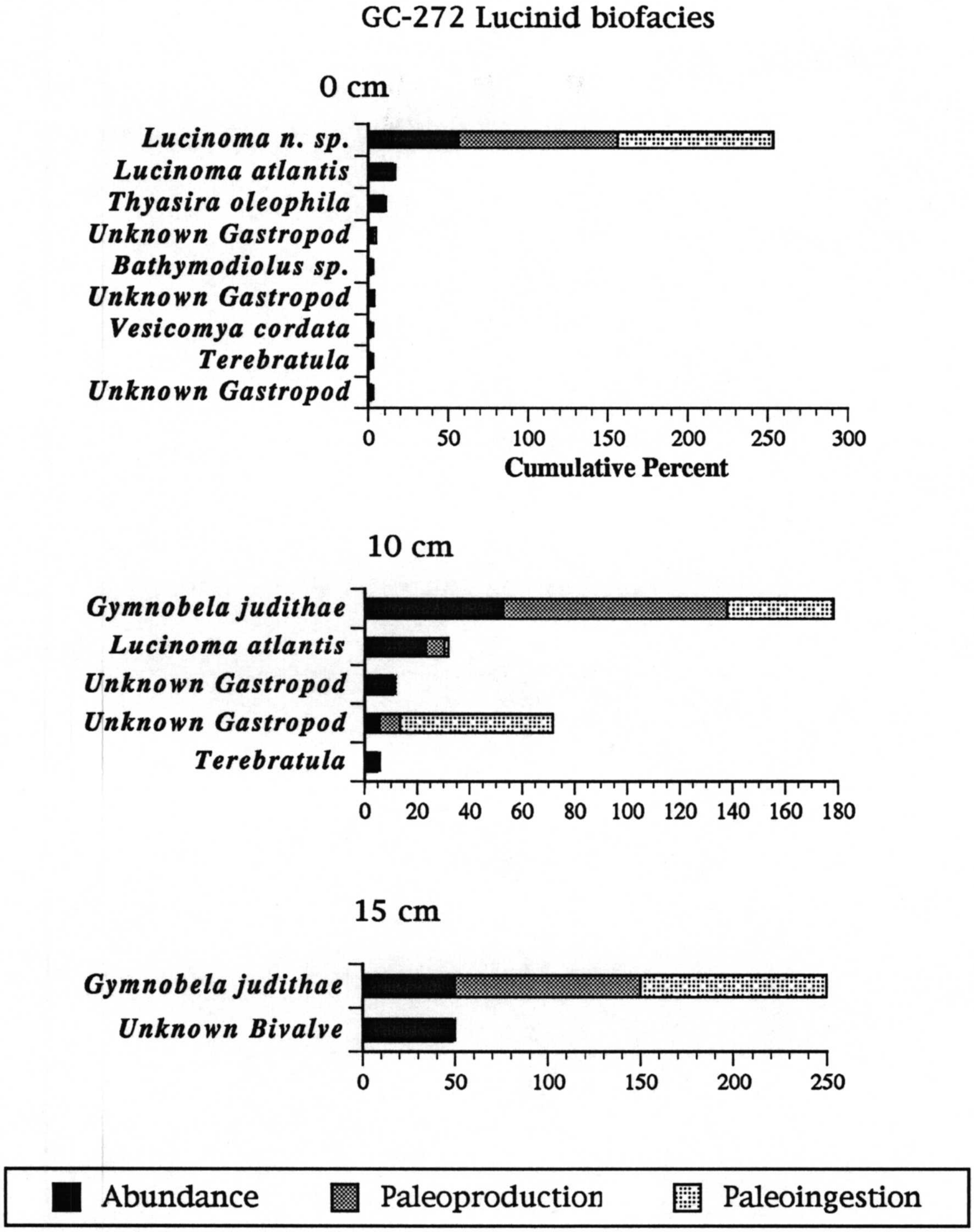


Figure D.19. The species composition at several core intervals from the lucinid biofacies at GC-272. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

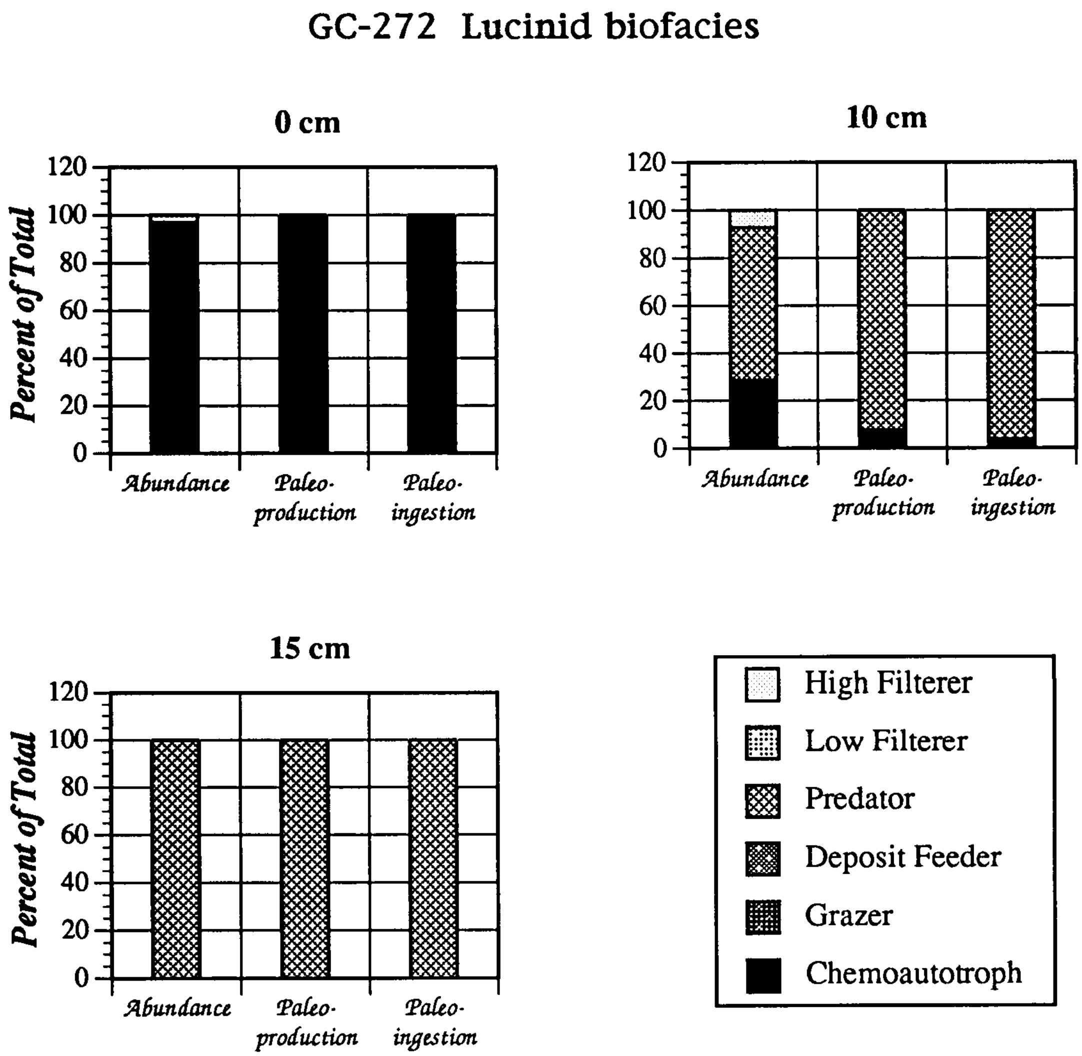


Figure D.20. The cumulative feeding guild structure of several core intervals from the lucinid biofacies at GC-272, defined by numerical abundance, paleoproduction, and paleoingestion.

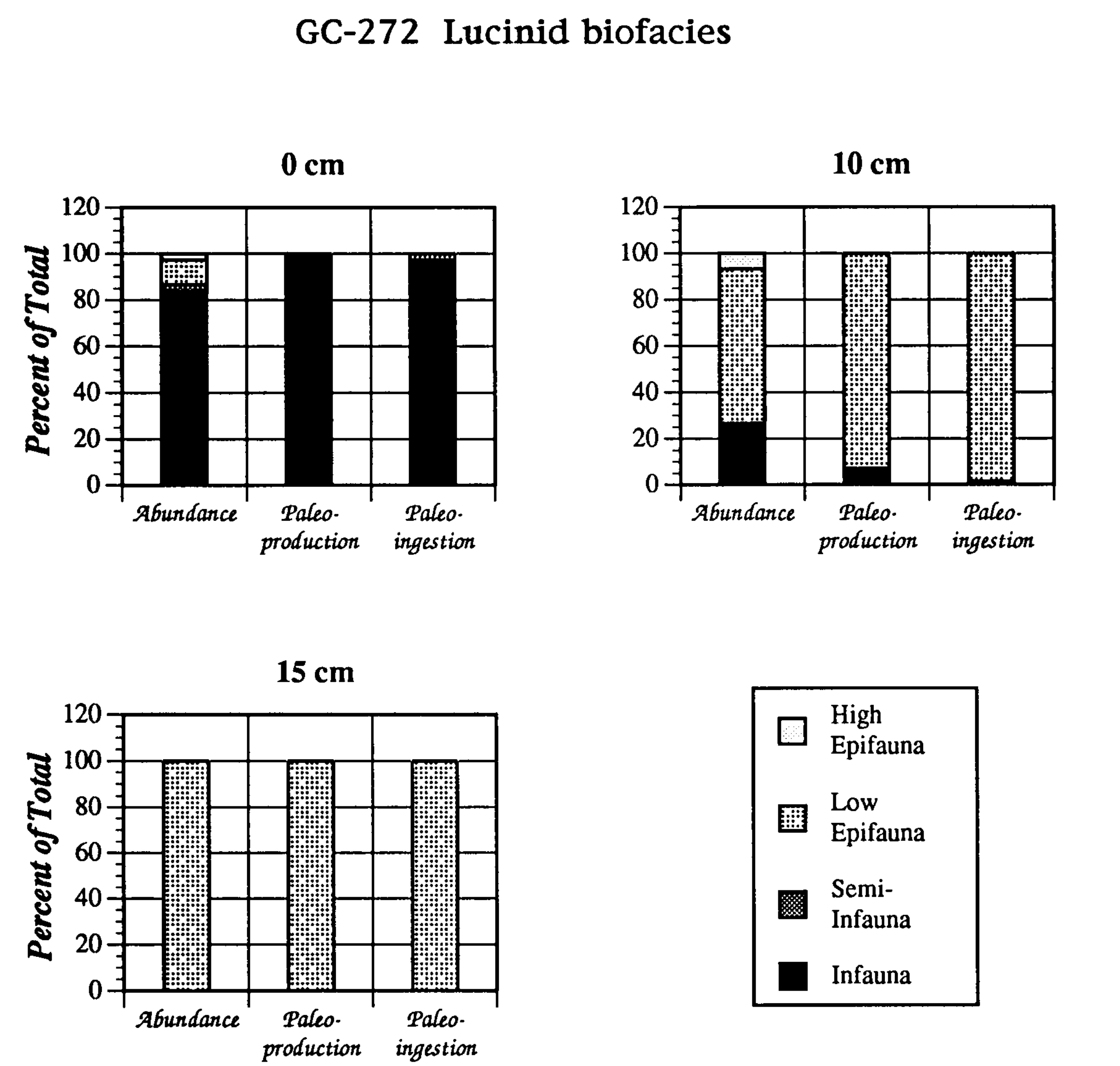


Figure D.21. The cumulative habitat tier structure of several core intervals from the lucinid biofacies at GC-272, defined by numerical abundance, paleoproduction, and paleoingestion.

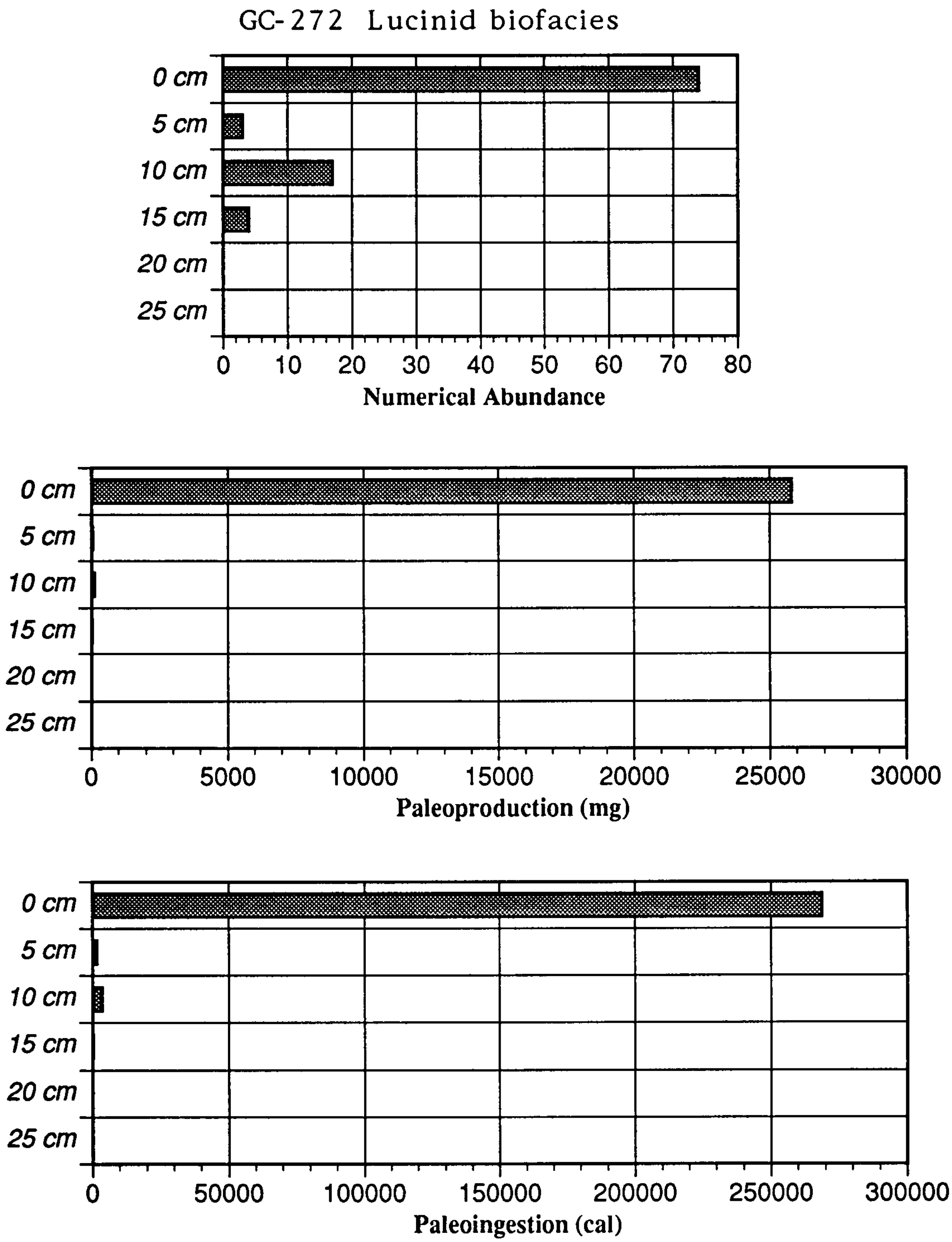
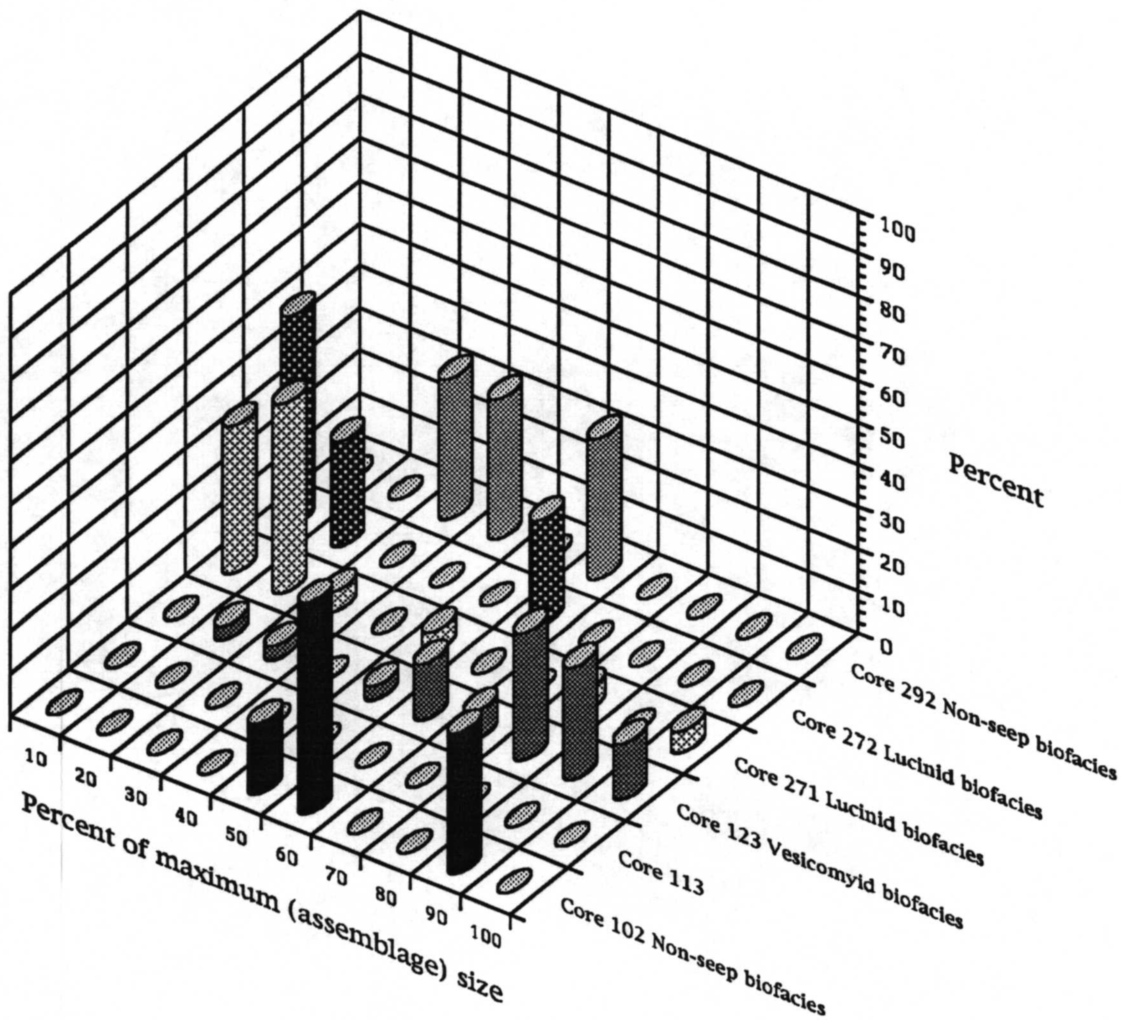


Figure D.22. The numerical abundance, paleoproduction, and paleoingestion contributed by each 5 cm core interval from the lucinid biofacies at GC-272.

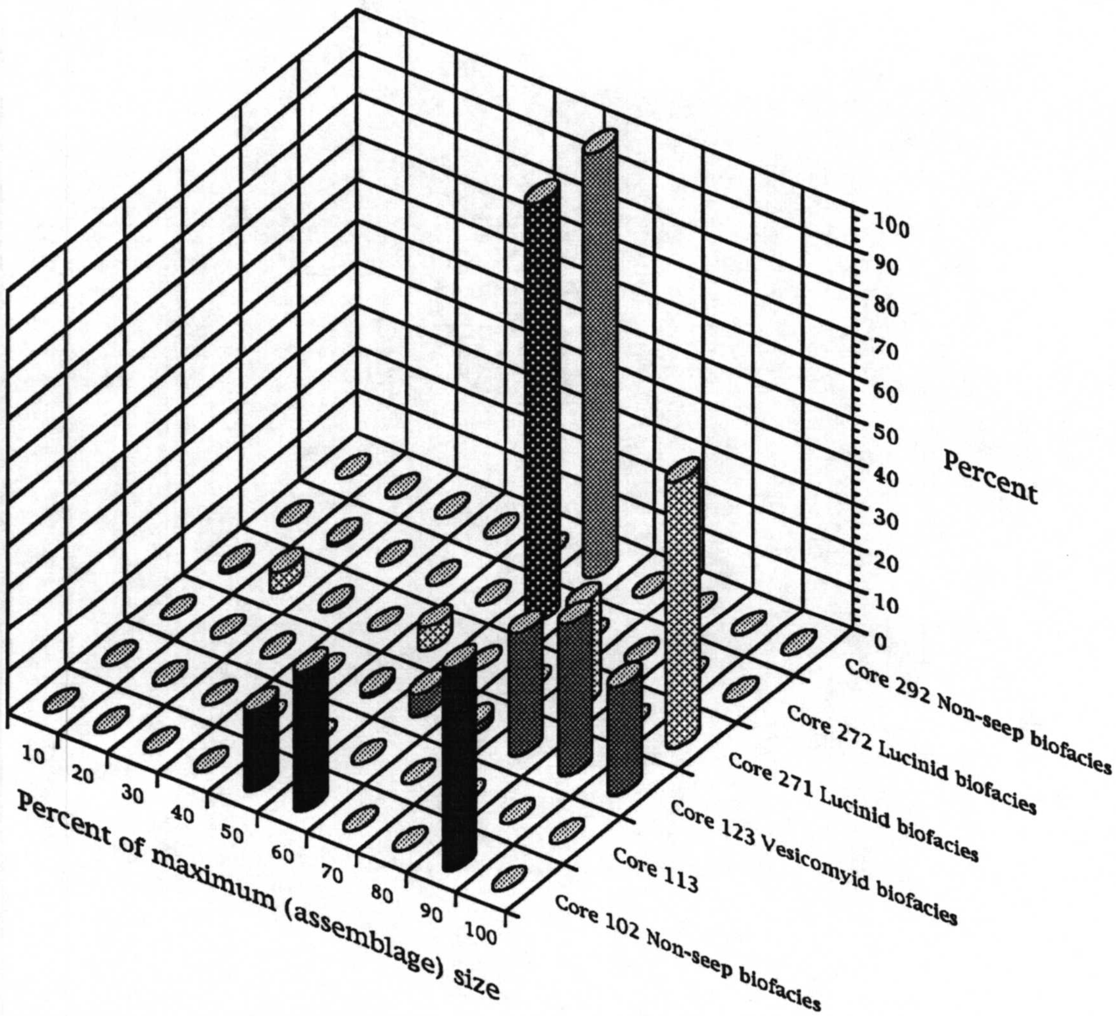
Numerical abundance by core



Green Canyon 272

Figure D.23. The size-frequency distribution of several biofacies from GC-272 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

Paleoproduction by core



Green Canyon 272

Figure D.24. The apportionment of paleoproduction among the size classes of several biofacies from GC-272 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

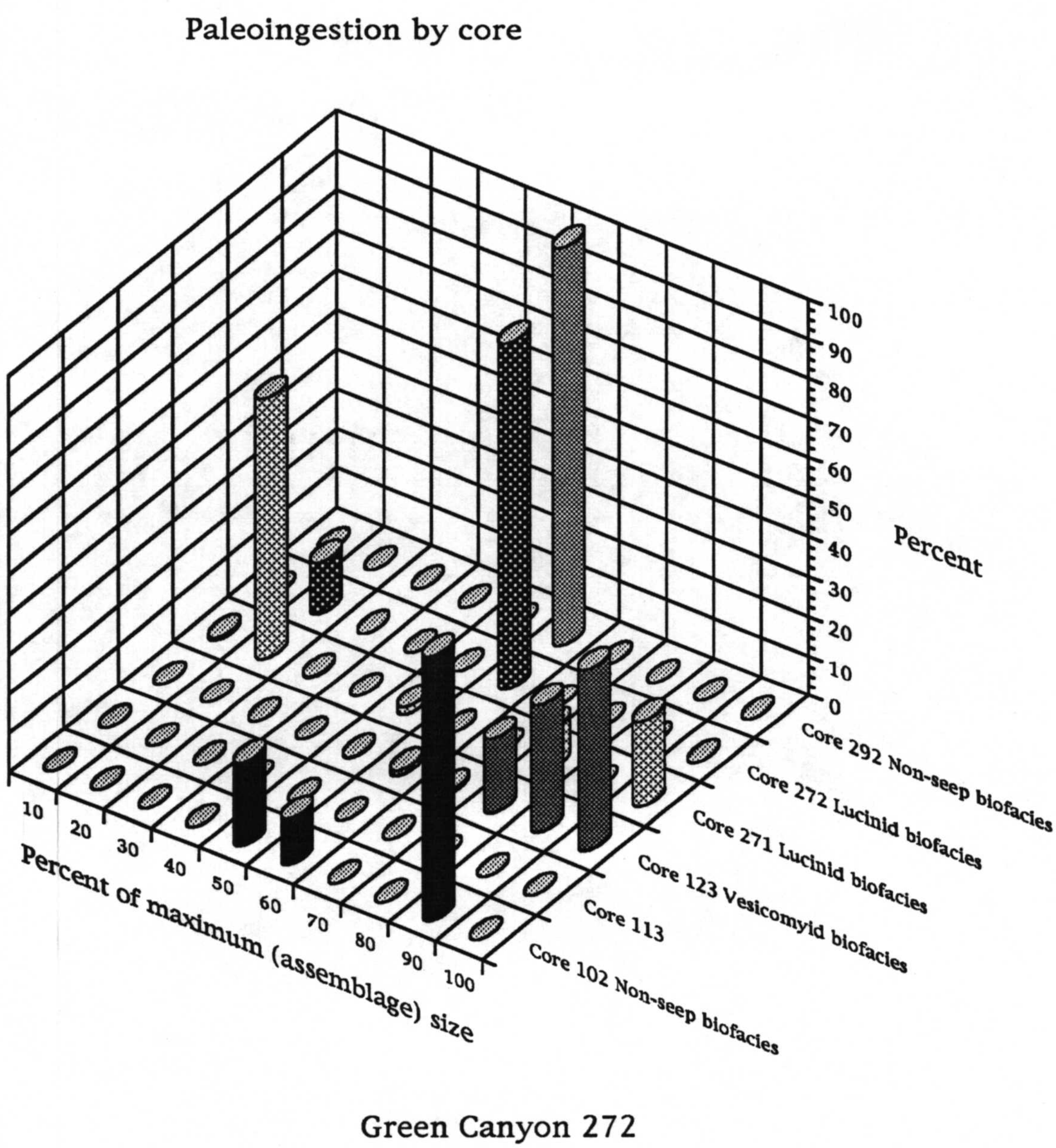
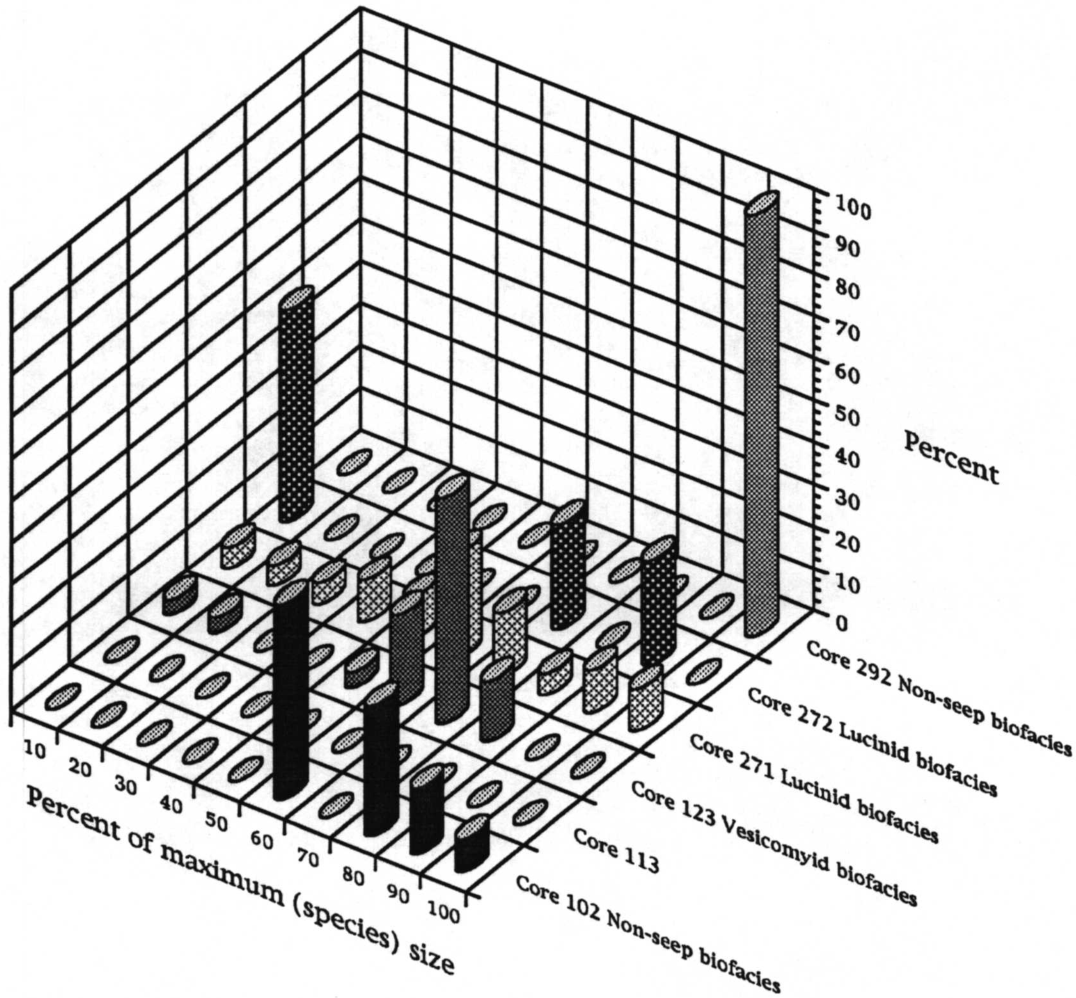


Figure D.25. The apportionment of paleoingestion among the size classes of several biofacies from GC-272 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

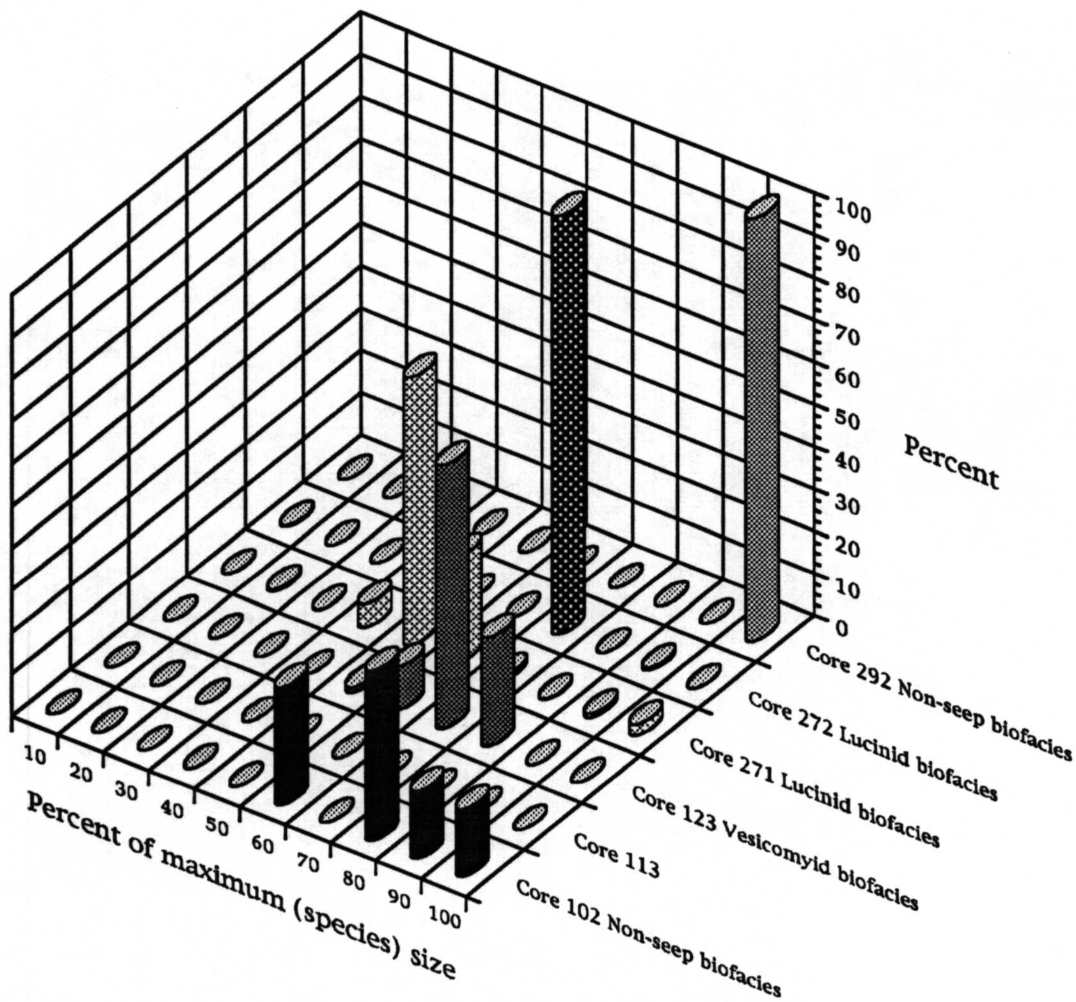
Numerical abundance by core



Green Canyon 272

Figure D.26. The size-frequency distribution of several biofacies from GC-272 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

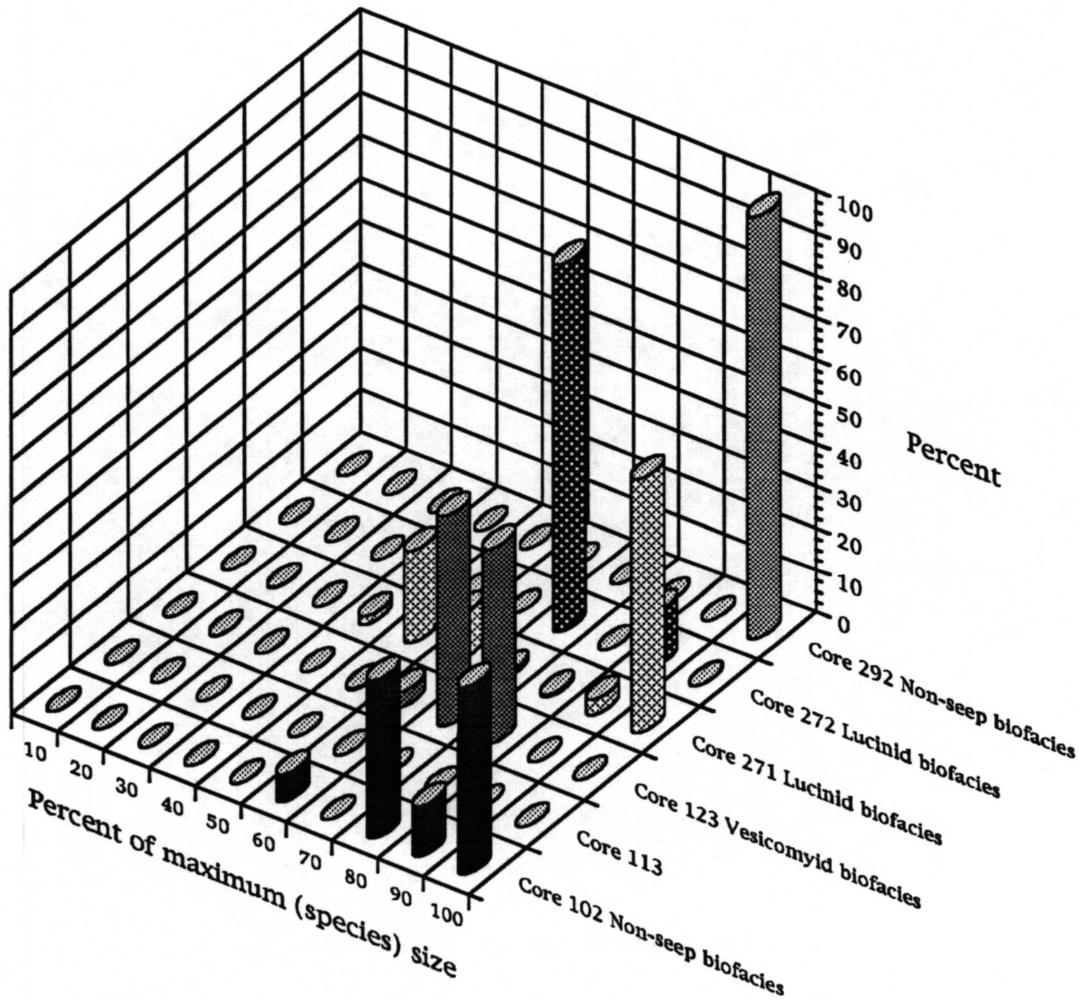
Paleoproduction by core



Green Canyon 272

Figure D.27. The apportionment of paleoproduction among the size classes of several biofacies from GC-272 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Paleoingestion by core



Green Canyon 272

Figure D.28. The apportionment of paleoingestion among the size classes of several biofacies from GC-272 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Green Canyon 272 Box Cores

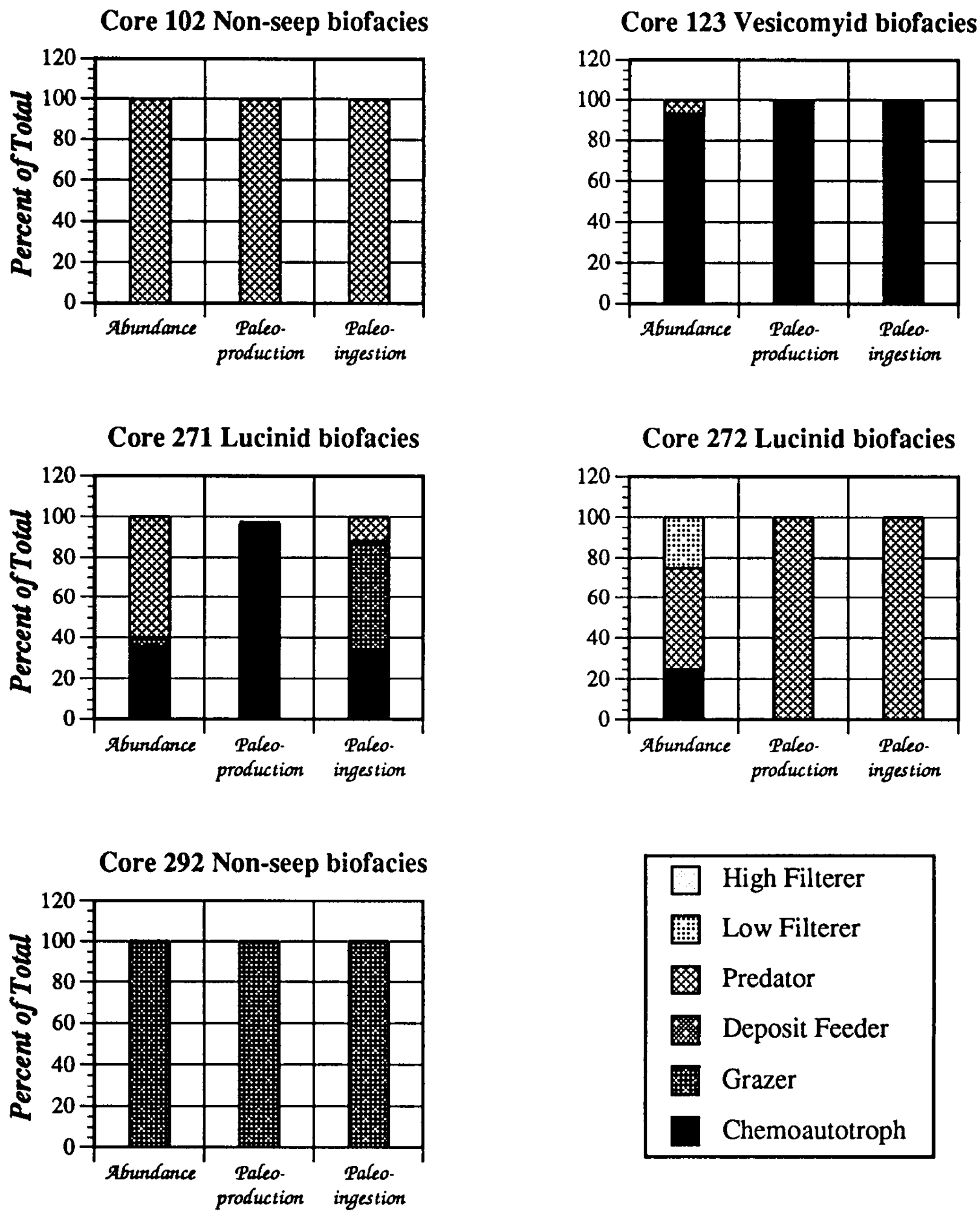


Figure D.29. The cumulative feeding guild structure of several box cores from GC-272, defined by numerical abundance, paleoproduction, and paleoingestion.

Green Canyon 272 Box Cores

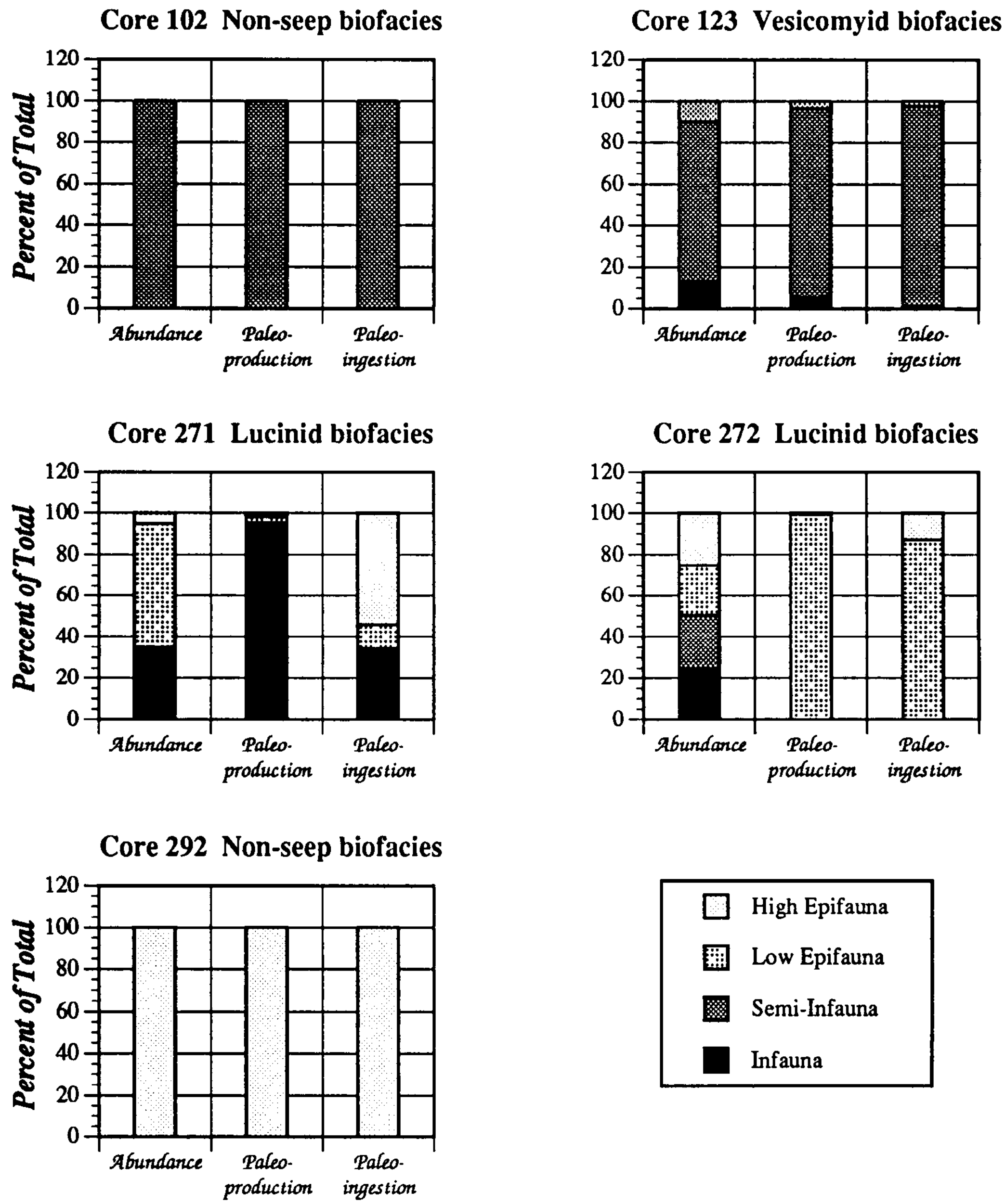


Figure D.30. The cumulative habitat tier structure of several box cores from GC-272, defined by numerical abundance, paleoproduction, and paleoingestion.

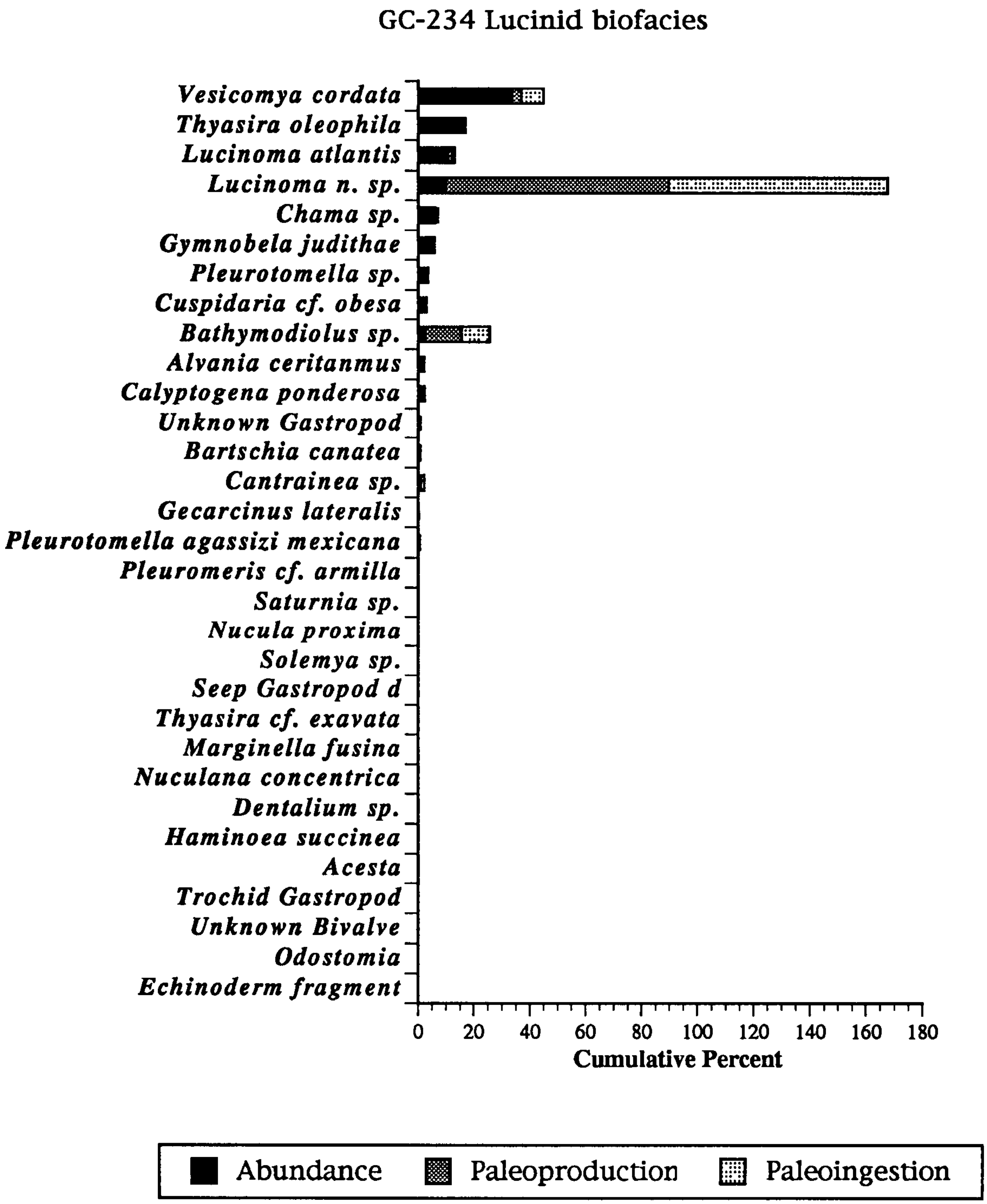


Figure D.31. The species composition of the lucinid biofacies at GC-234 Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

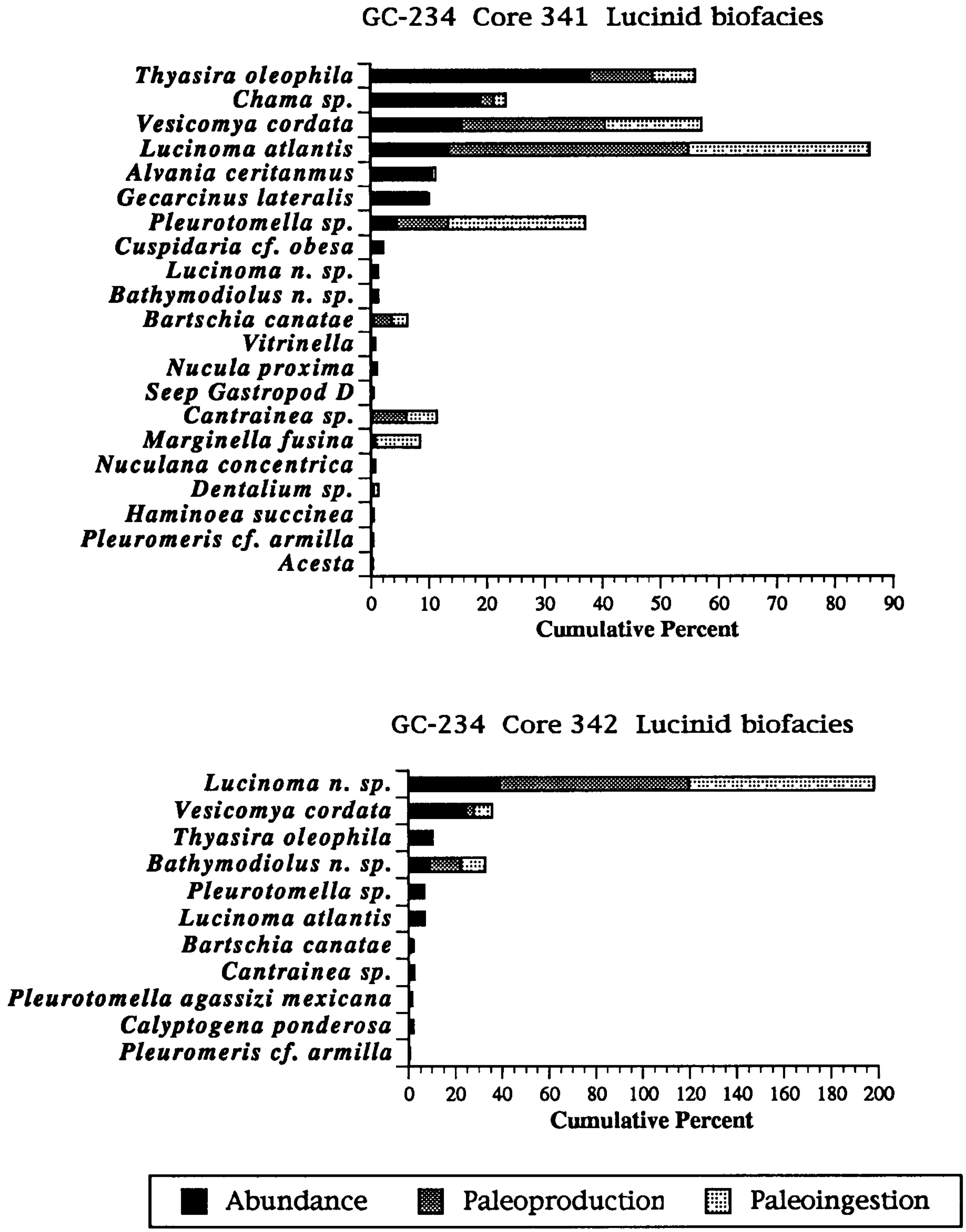


Figure D.32. The species composition of Cores 341 and 342 at GC-234 box cores. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

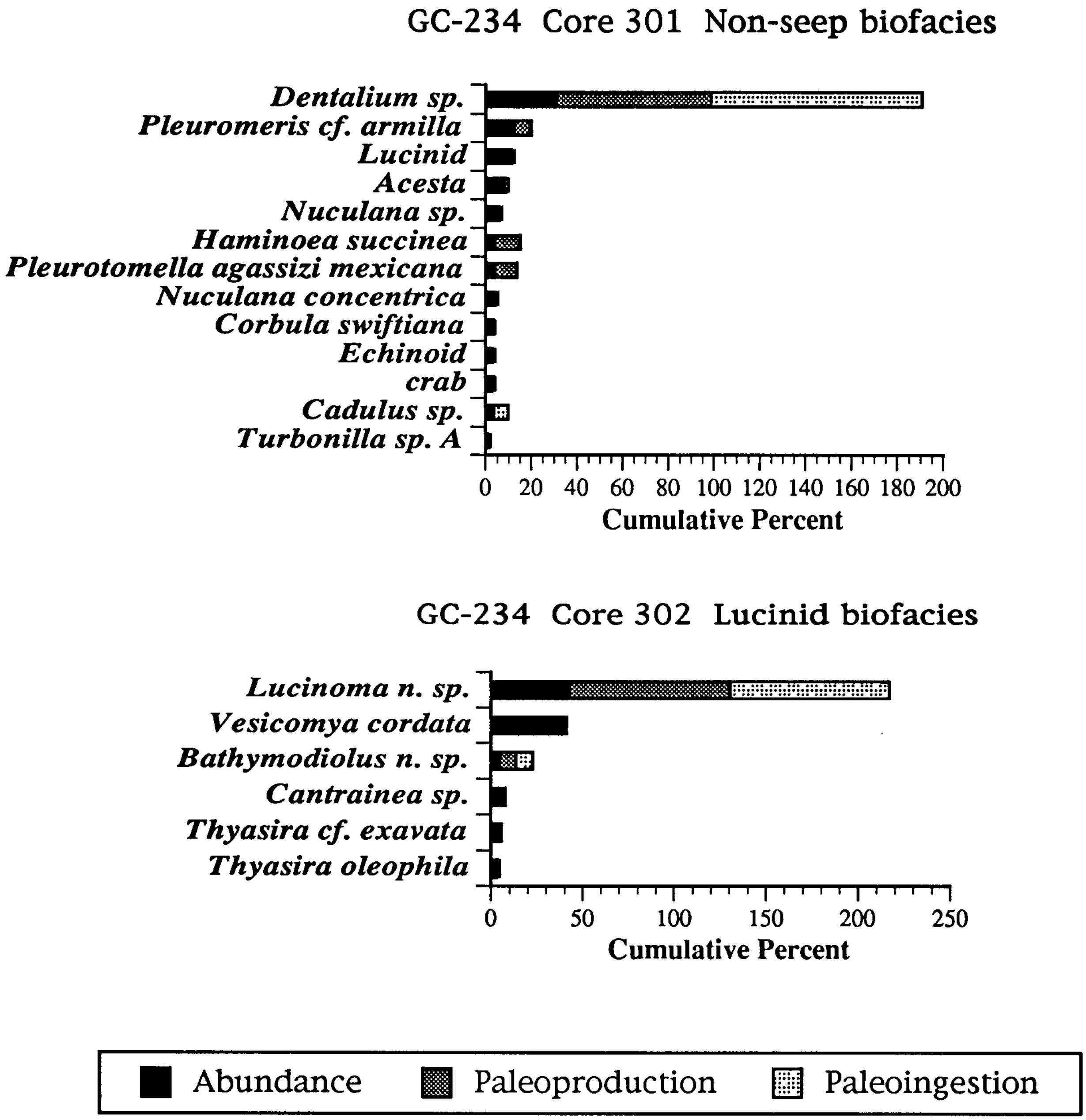
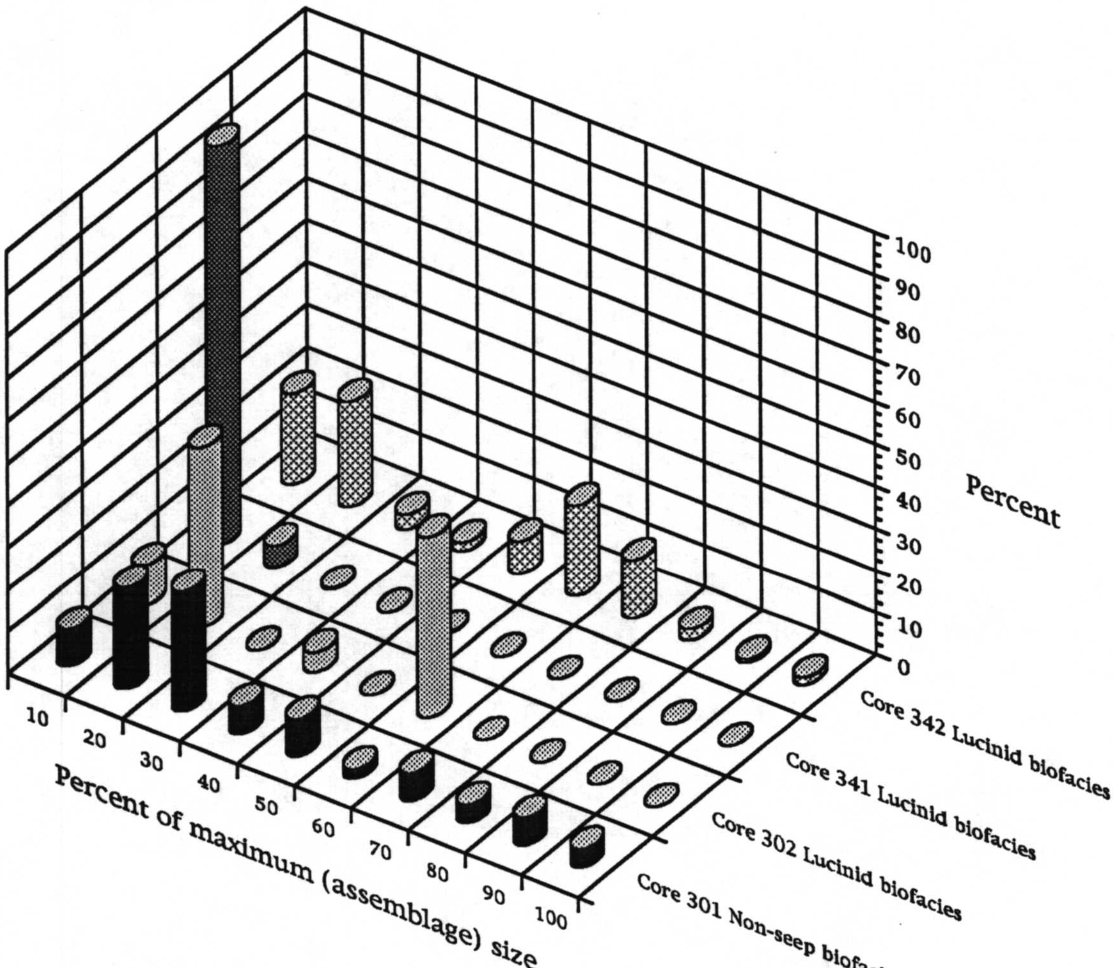


Figure D.33. The species composition of Cores 301 and 302 at GC-234 box cores. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

Numerical abundance by core



Green Canyon 234

Figure D.34. The size-frequency distribution of several biofacies from GC-234 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

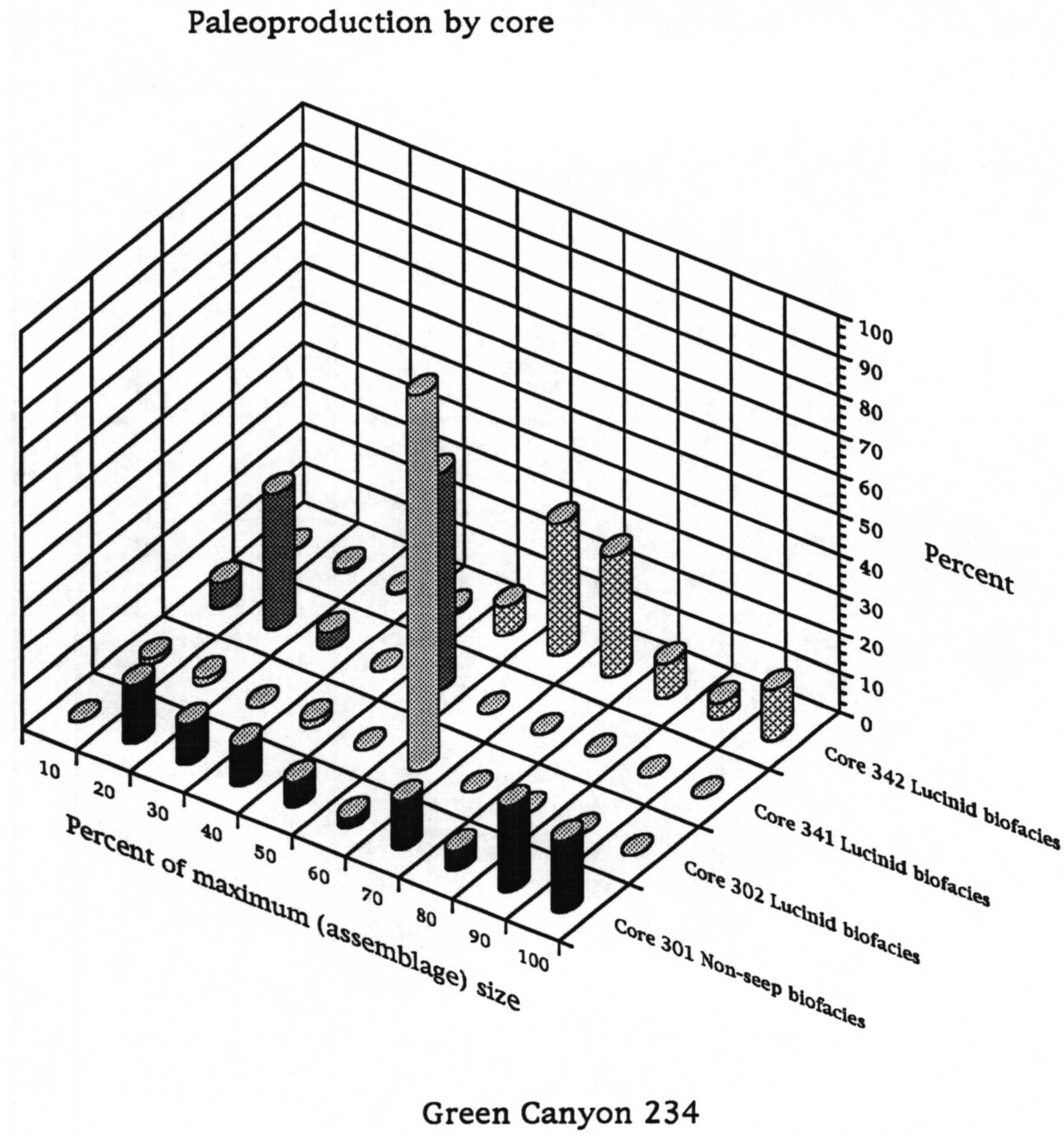
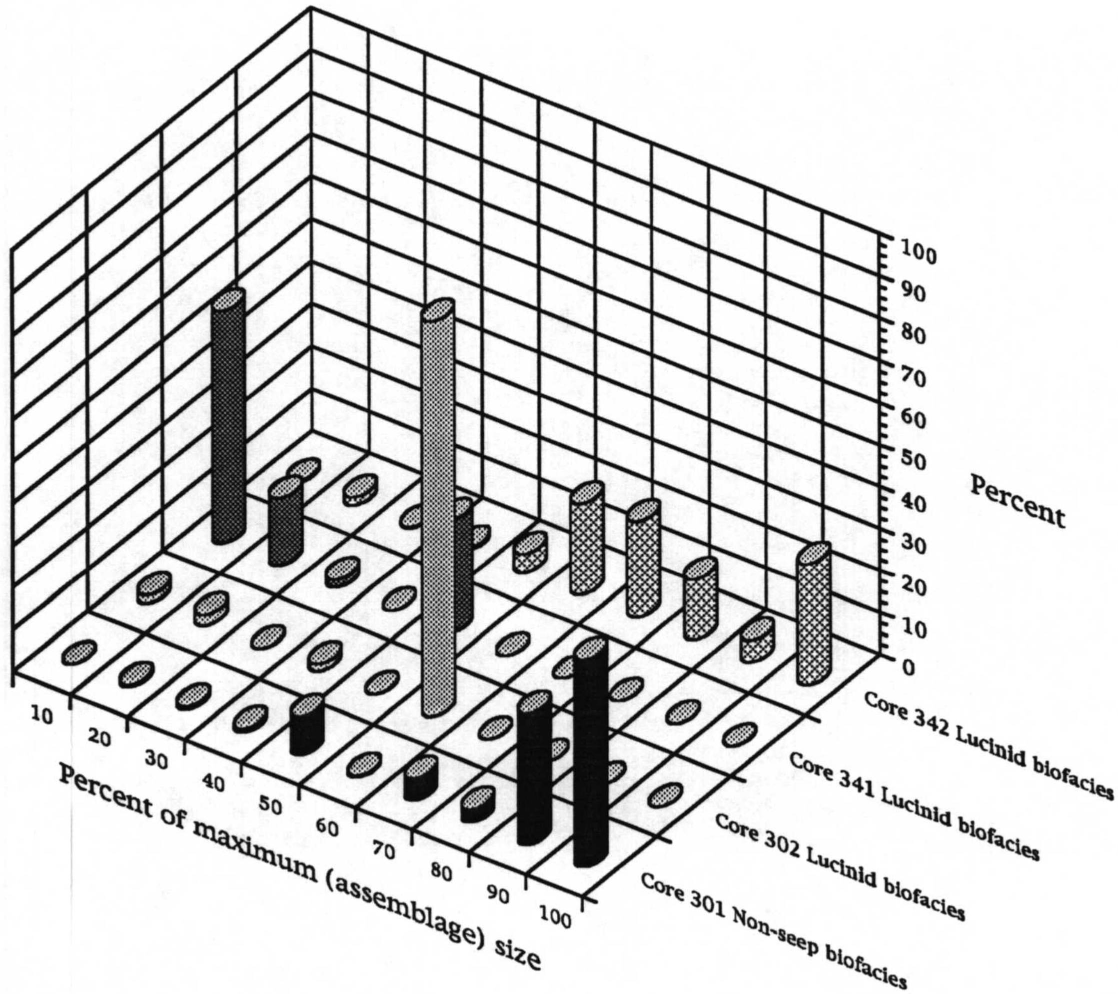


Figure D.35. The apportionment of paleoproduction among the size classes of several biofacies from GC-234 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

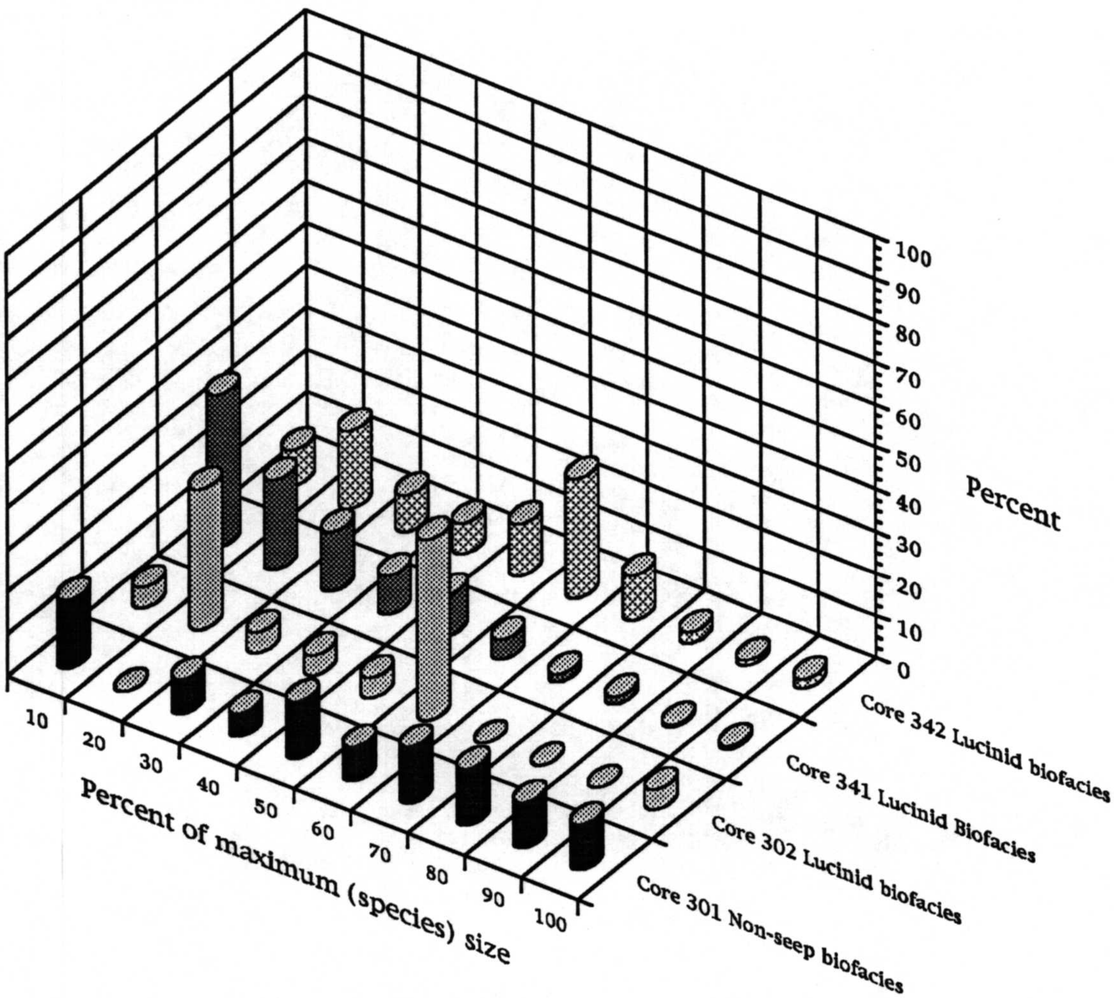
Paleoingestion by core



Green Canyon 234

Figure D.36. The apportionment of paleoingestion among the size classes of several biofacies from GC-234 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

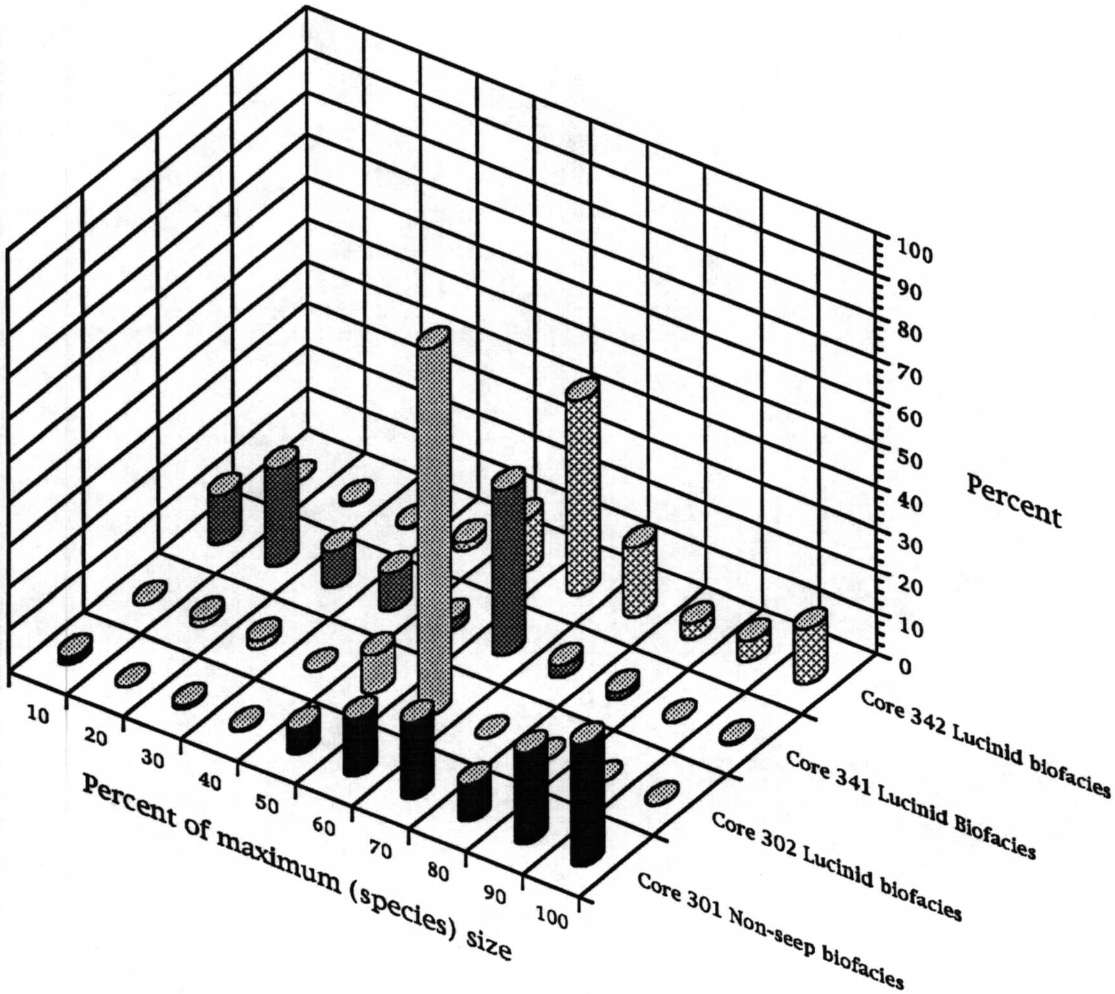
Numerical abundance by core



Green Canyon 234

Figure D.37. The size-frequency distribution of several biofacies from GC-234 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

Paleoproduction by core



Green Canyon 234

Figure D.38. The apportionment of paleoproduction among the size classes of several biofacies from GC-234 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

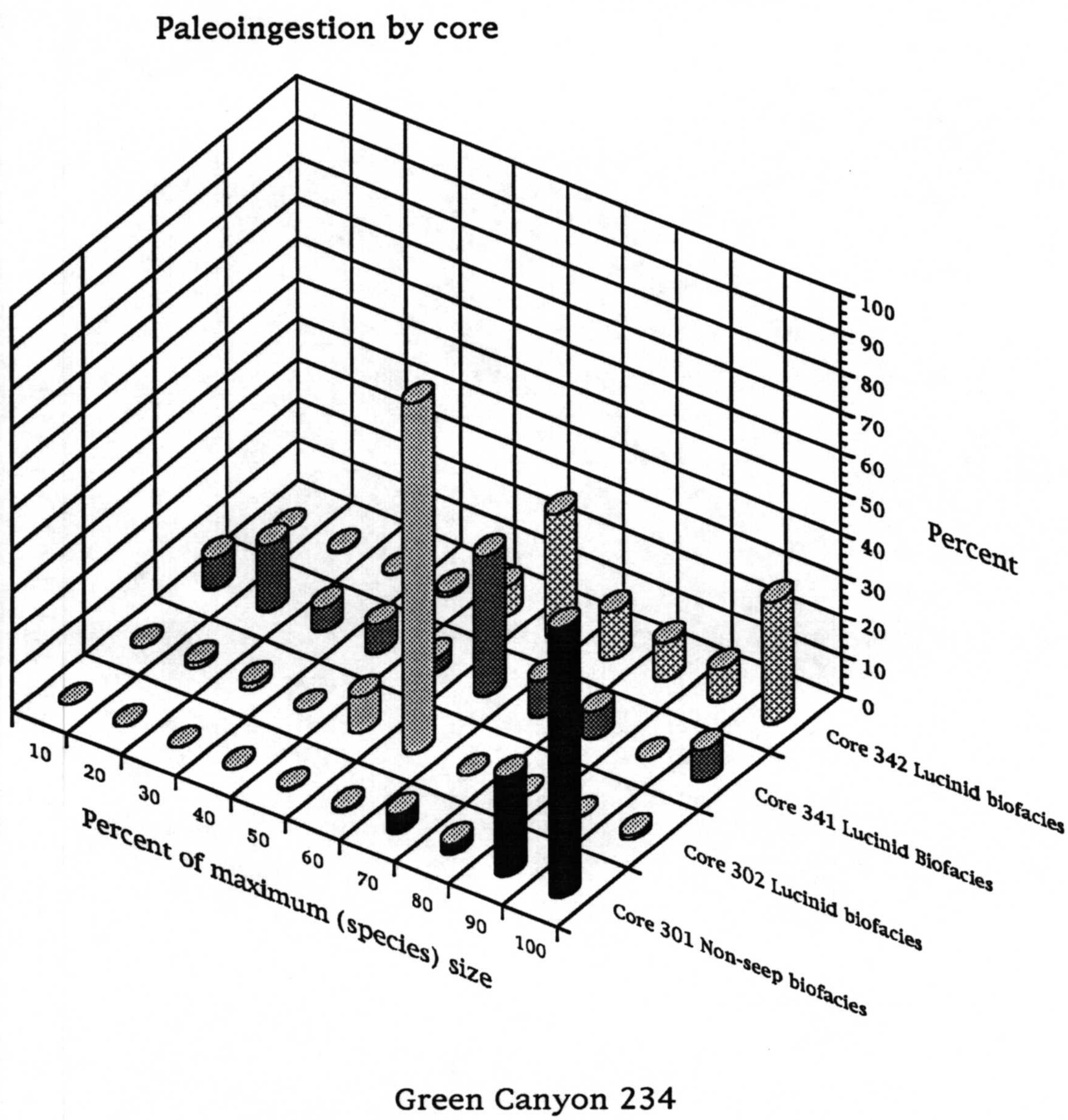


Figure D.39. The apportionment of paleoingestion among the size classes of several biofacies from GC-234 box cores. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

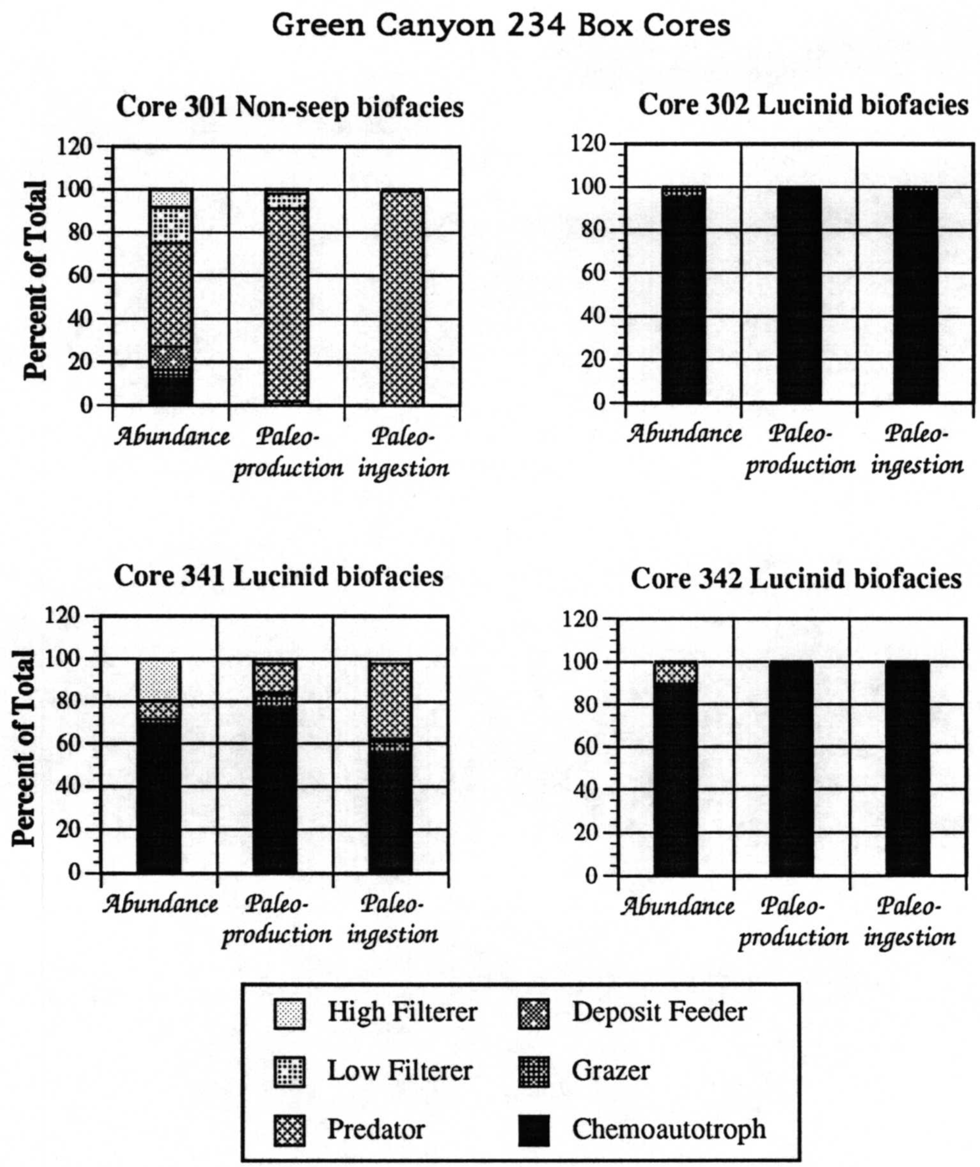


Figure D.40. The cumulative feeding guild structure of several box cores from GC-234, defined by numerical abundance, paleoproduction, and paleoingestion.

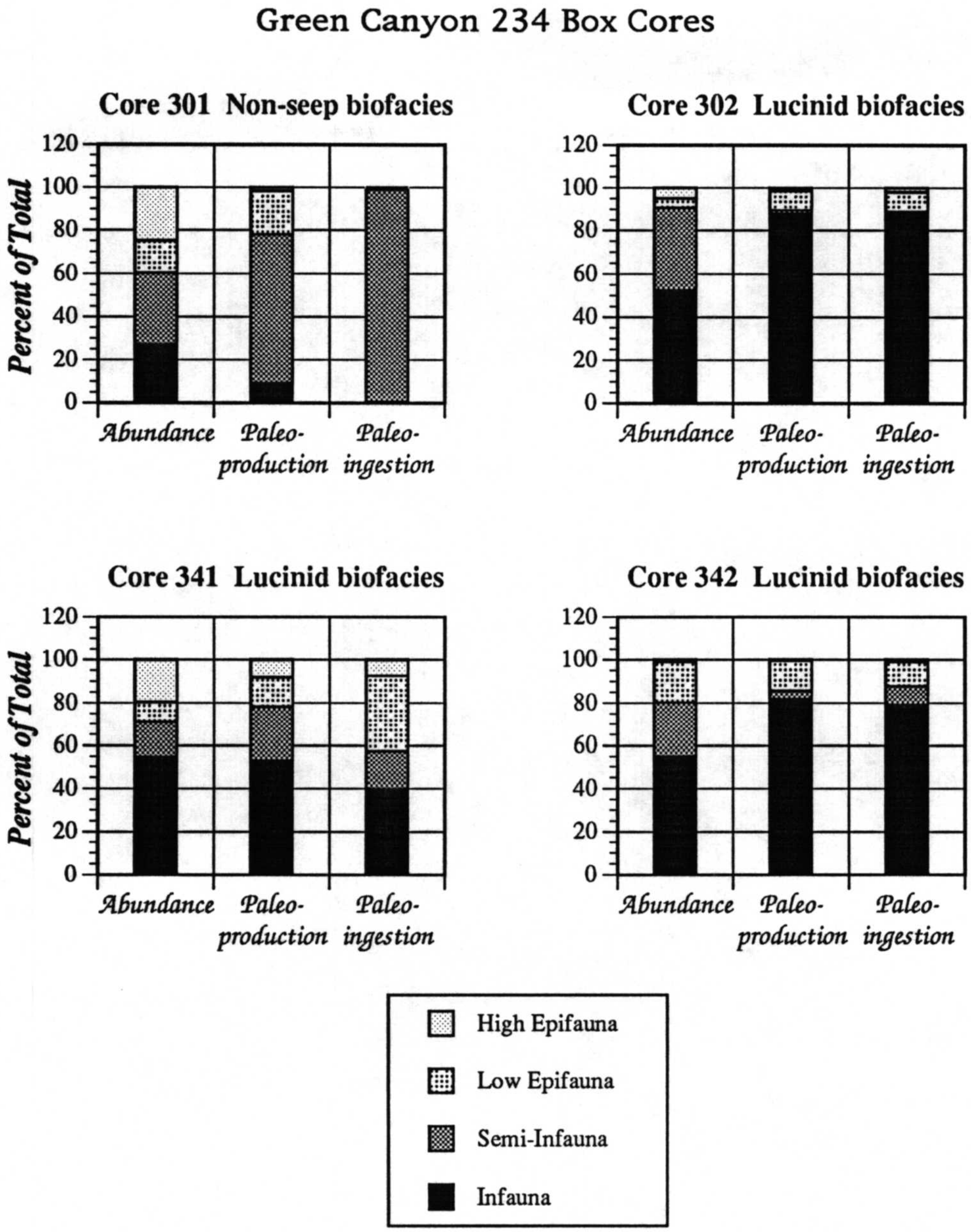
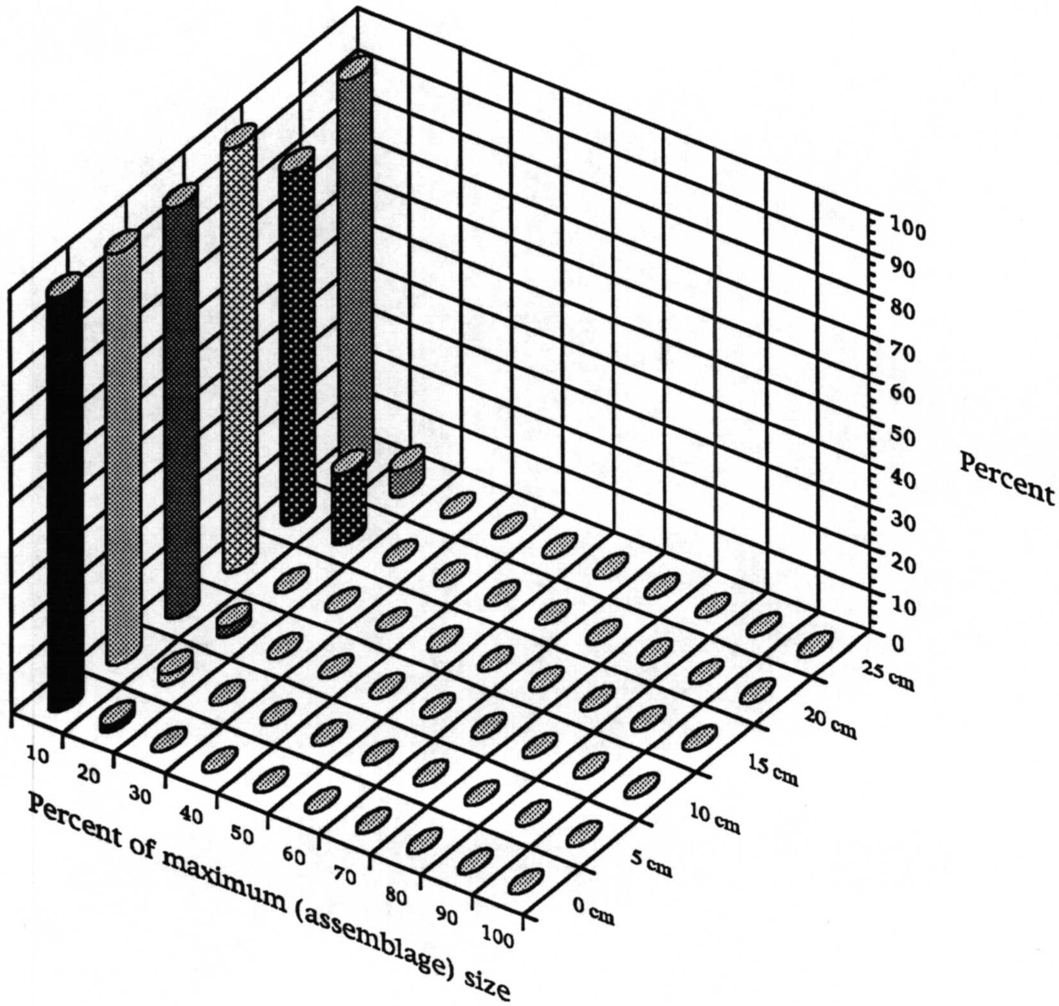


Figure D.41. The cumulative habitat tier structure of several box cores from GC-234, defined by numerical abundance, paleoproduction, and paleoingestion.

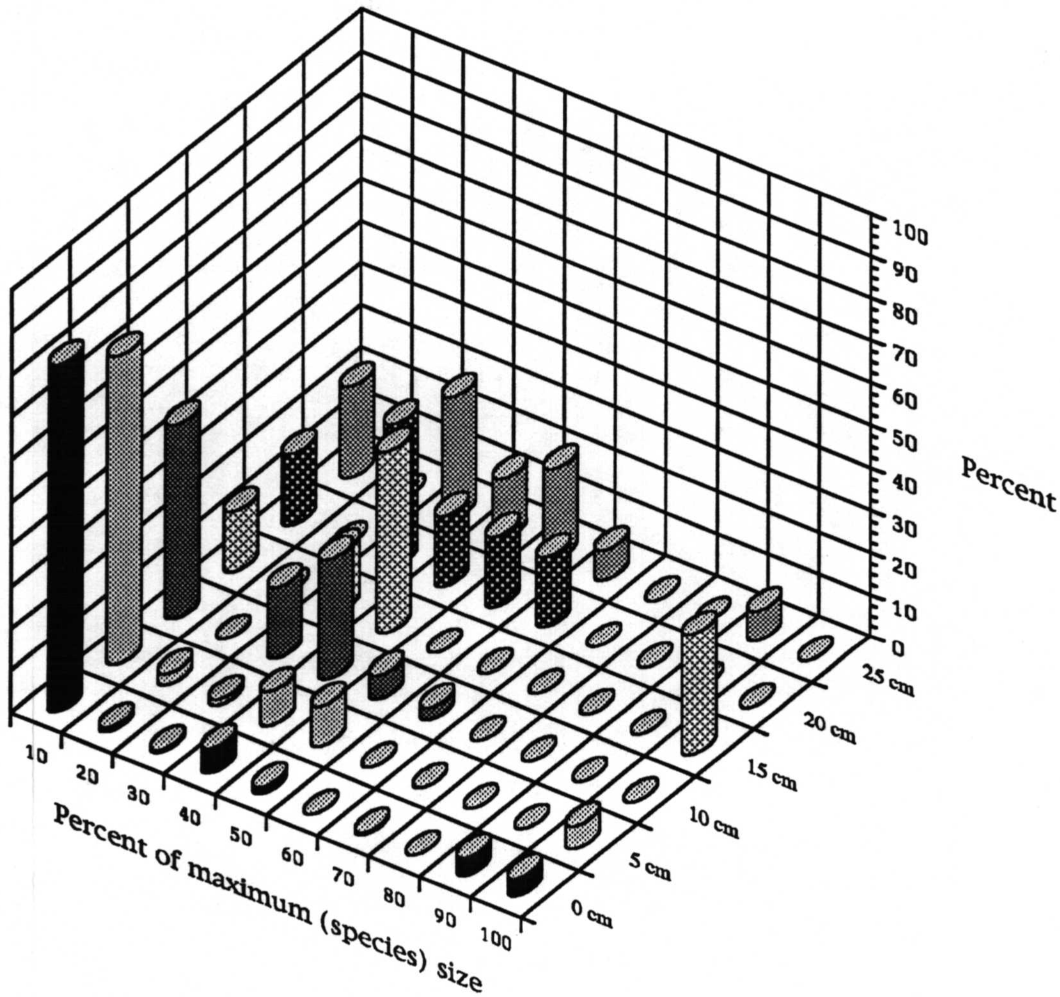
Numerical abudance by core interval



Green Canyon 234

Figure D.42. The size-frequency distribution for 5 cm core intervals at GC-234. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

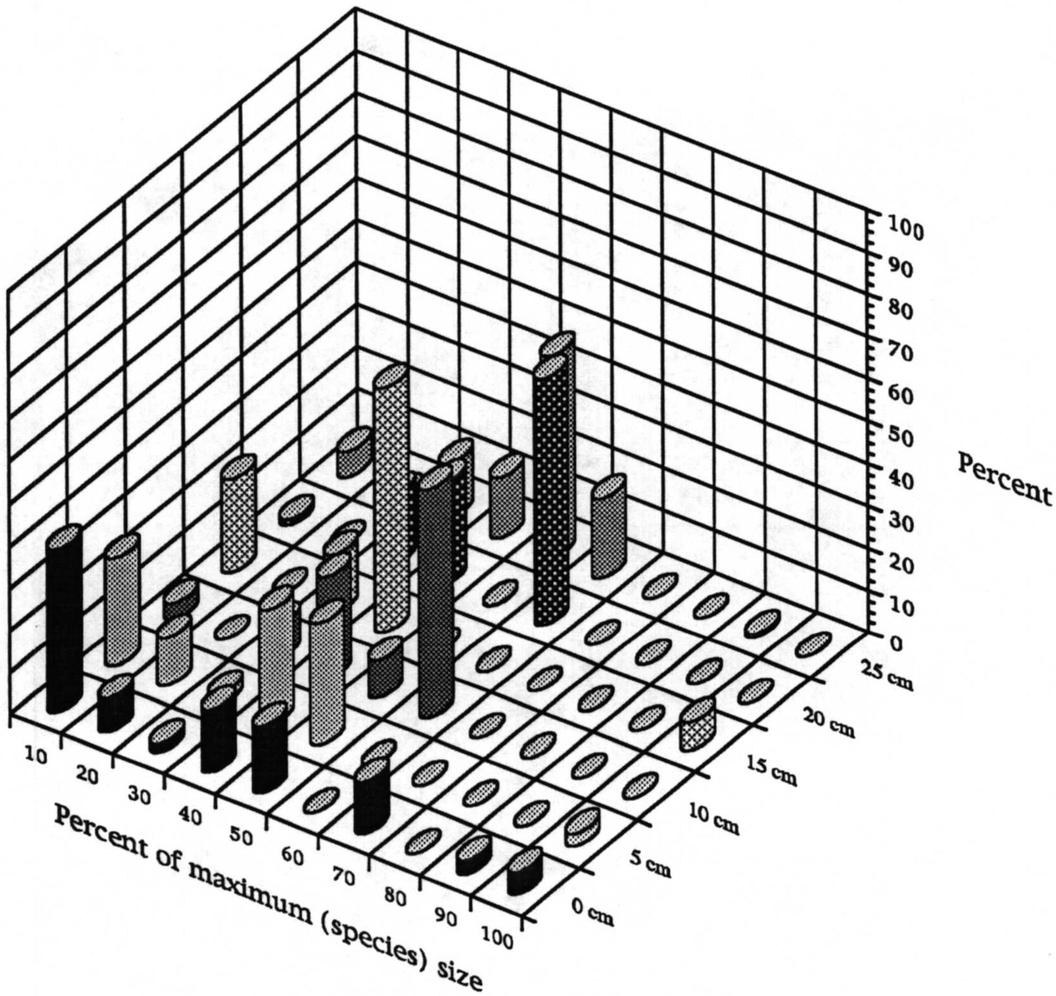
Numerical abundance by core interval



Green Canyon 234

Figure D.43. The size-frequency distribution for 5 cm core intervals at GC-234. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

Paleoproduction by core interval



Green Canyon 234

Figure D.44. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GC-234. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

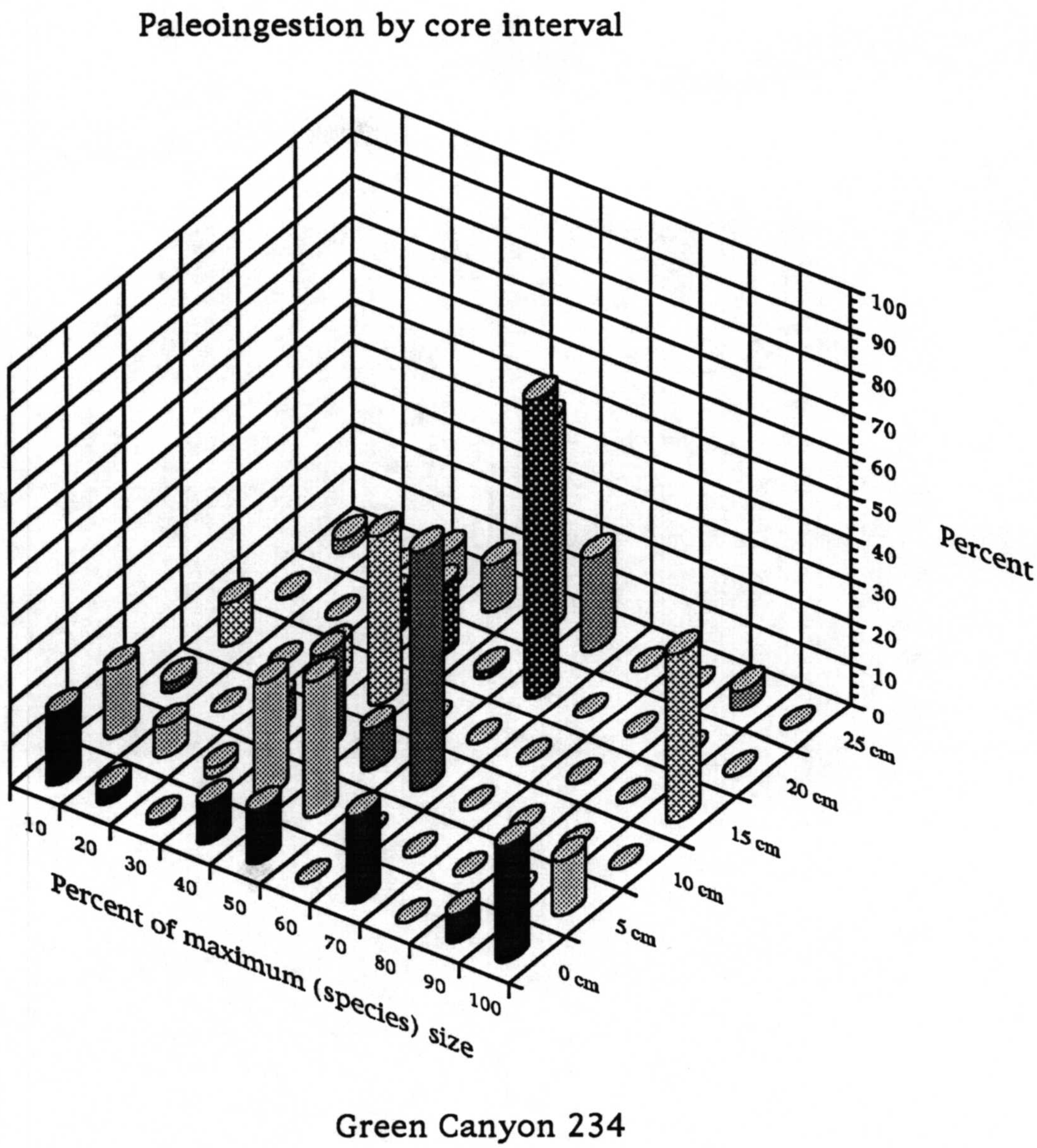


Figure D.45. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GC-234. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

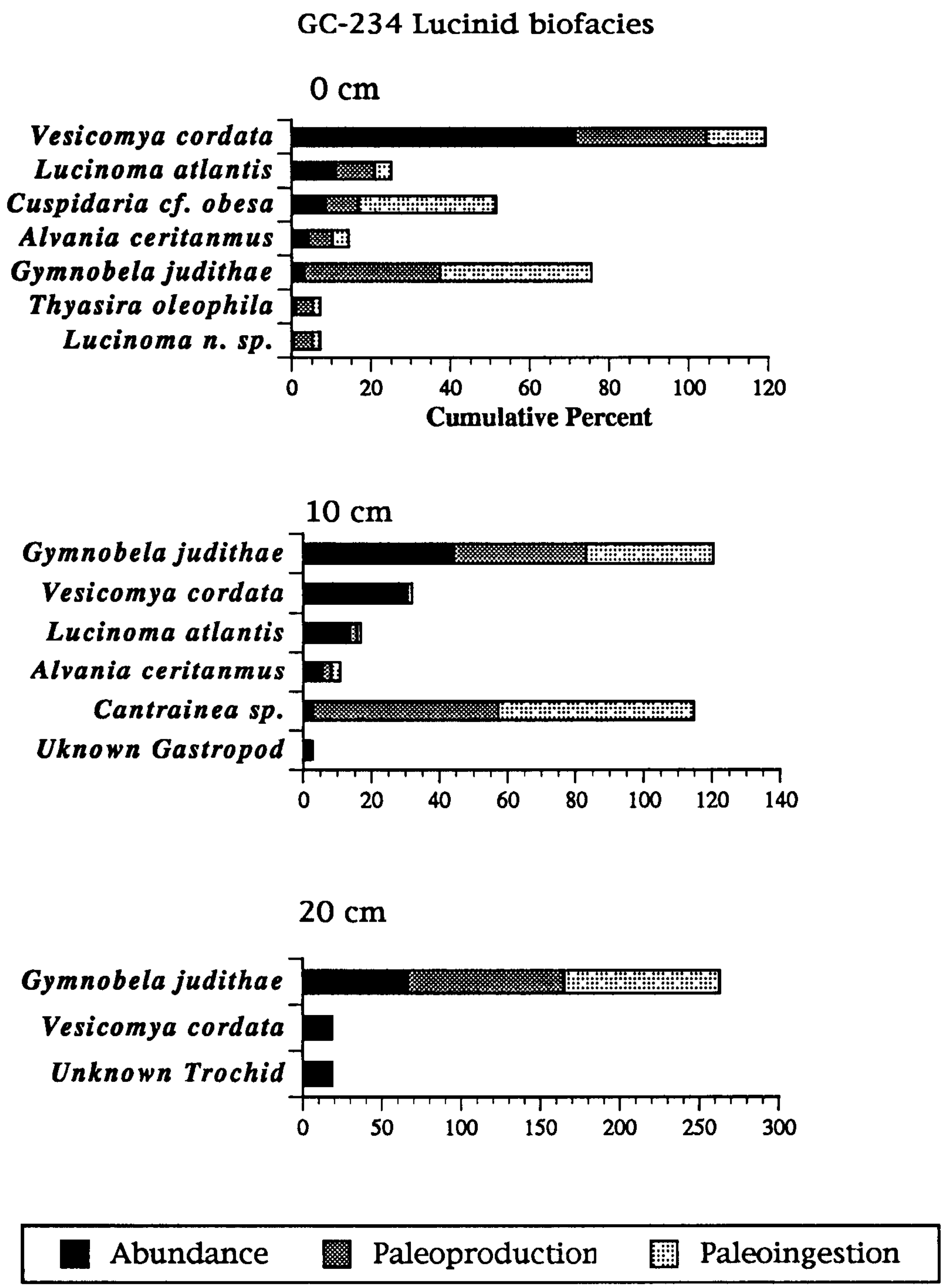


Figure D.46. The species composition of several core intervals at GC-234. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

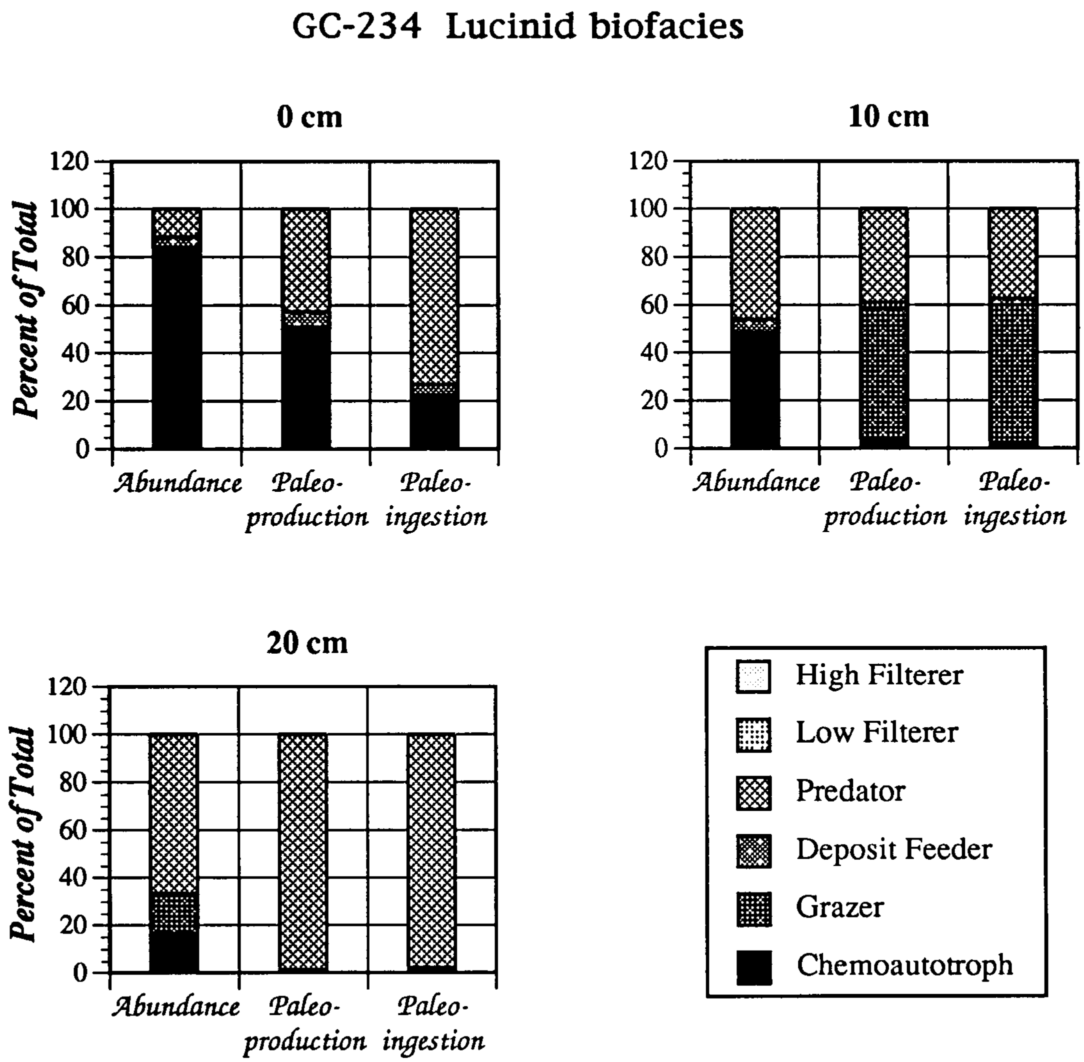


Figure D.47. The cumulative feeding guild structure of several core intervals from the lucinid biofacies at GC-234, defined by numerical abundance, paleoproduction, and paleoingestion.

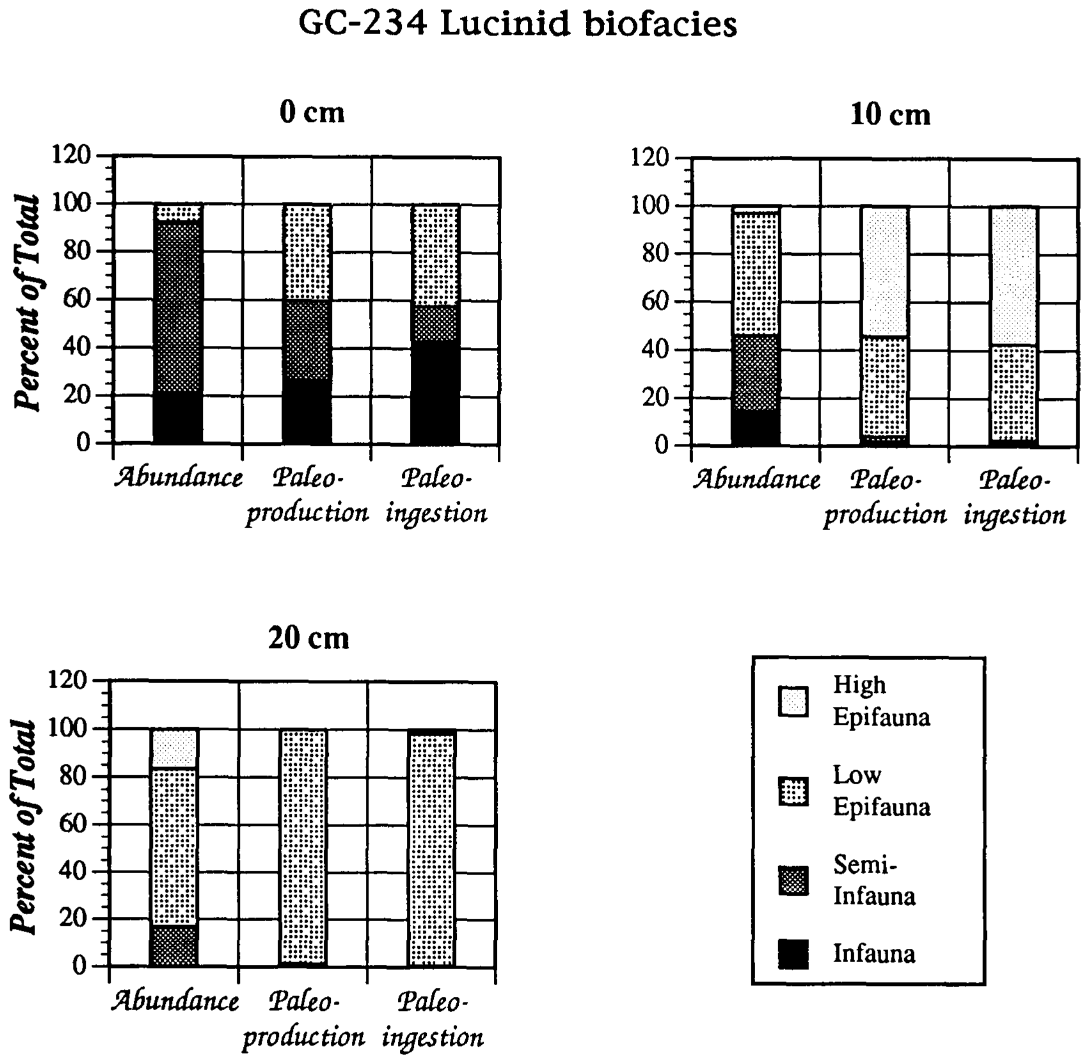


Figure D.48. The cumulative habitat tier structure of several core intervals from the lucinid biofacies at GC-234, defined by numerical abundance, paleoproduction, and paleoingestion.

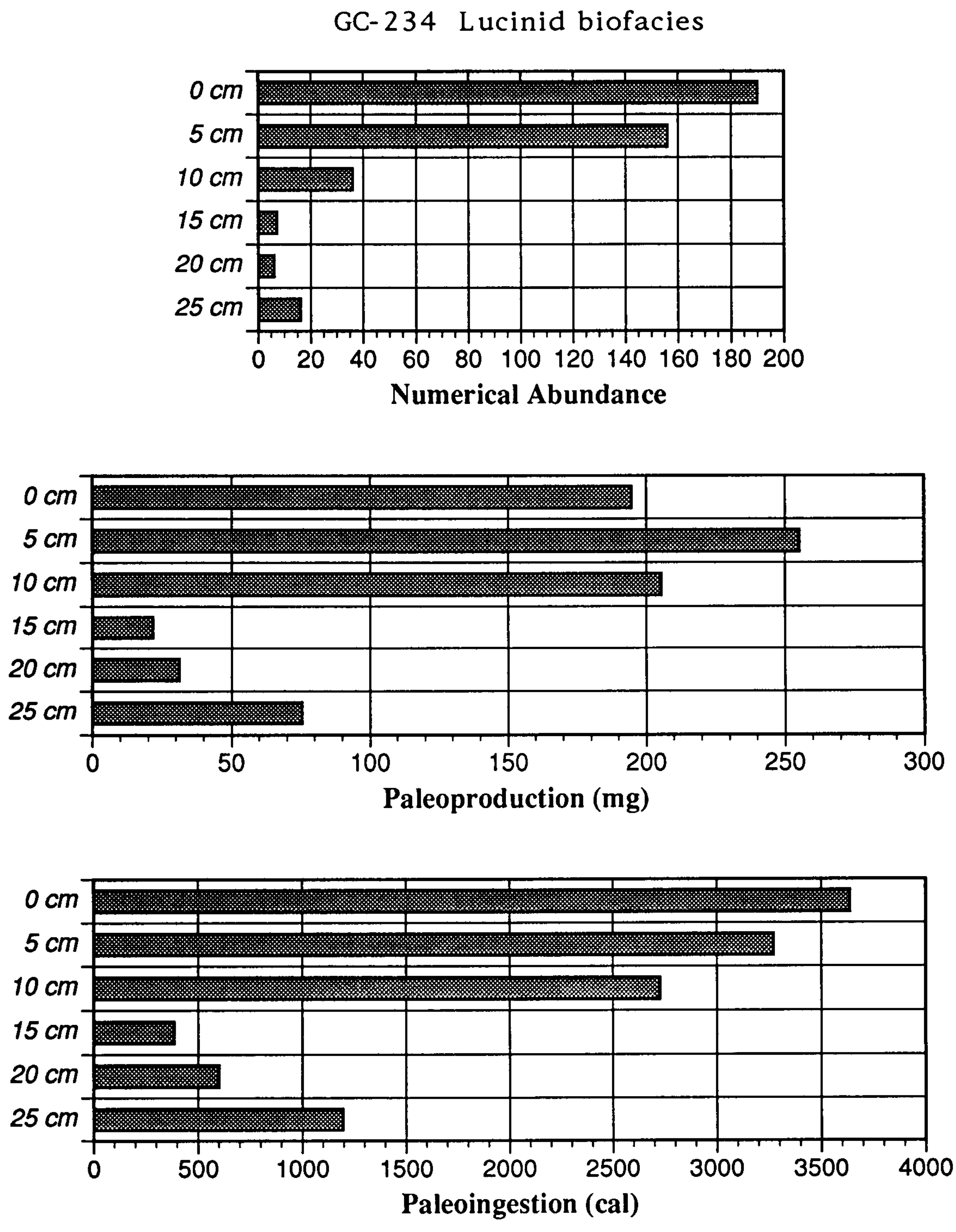


Figure D.49. The numerical abundance, paleoproduction, and paleoingestion contributed by each 5 cm core interval from the lucinid biofacies at GC-234.

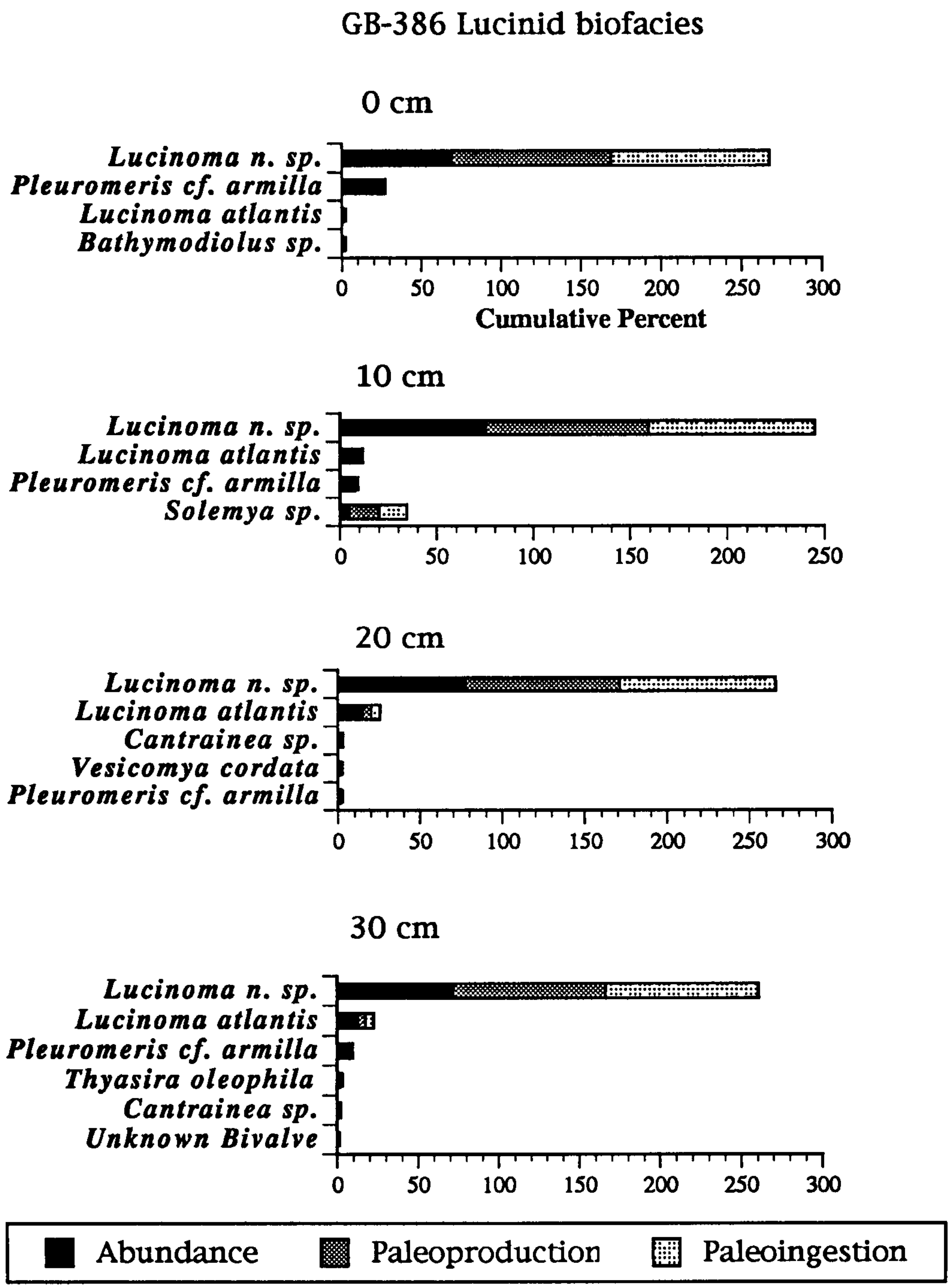


Figure D.50. The species composition of several core intervals at GB-386. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

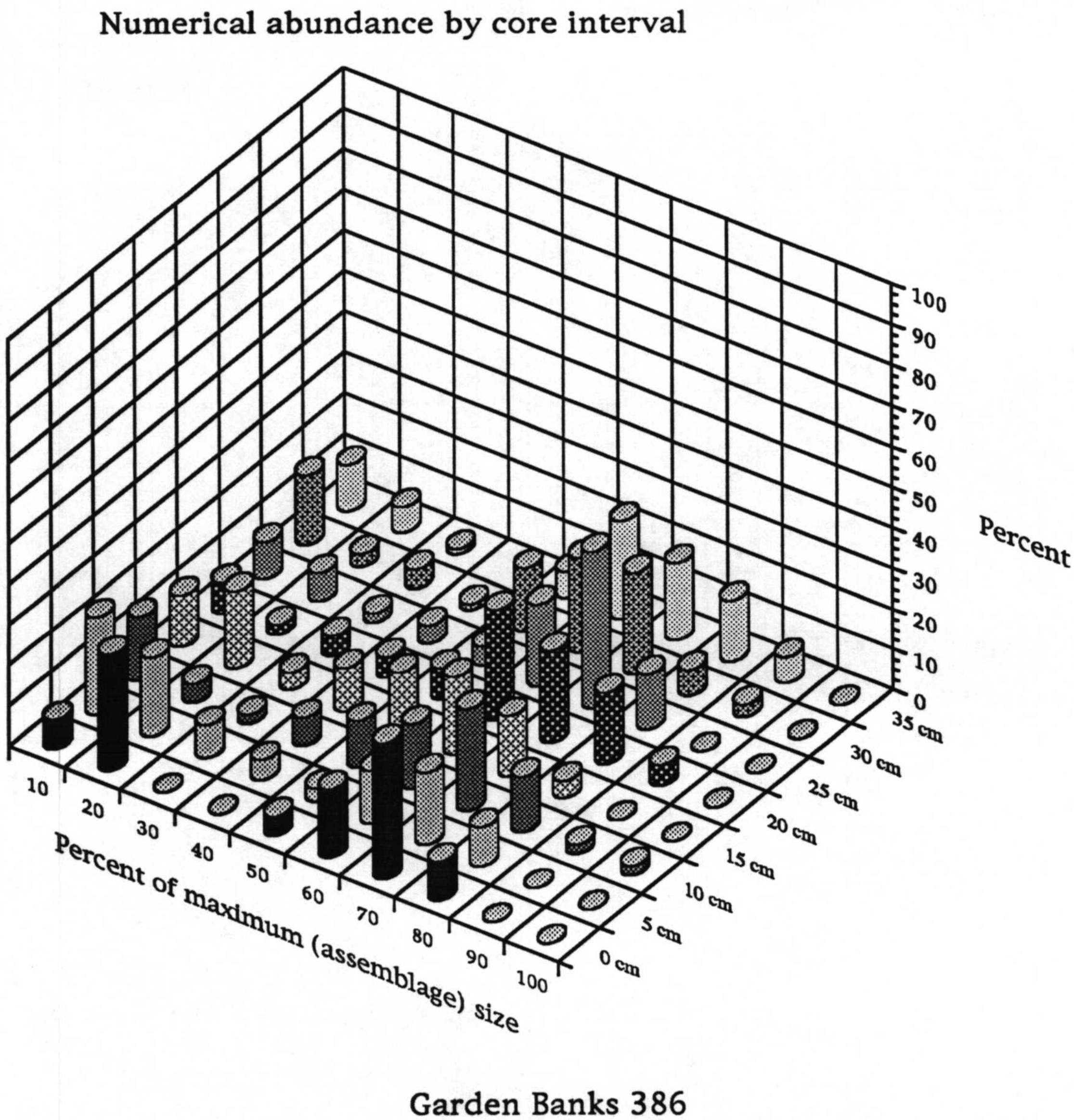


Figure D.51. The size-frequency distribution for 5 cm core intervals at GB-386. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

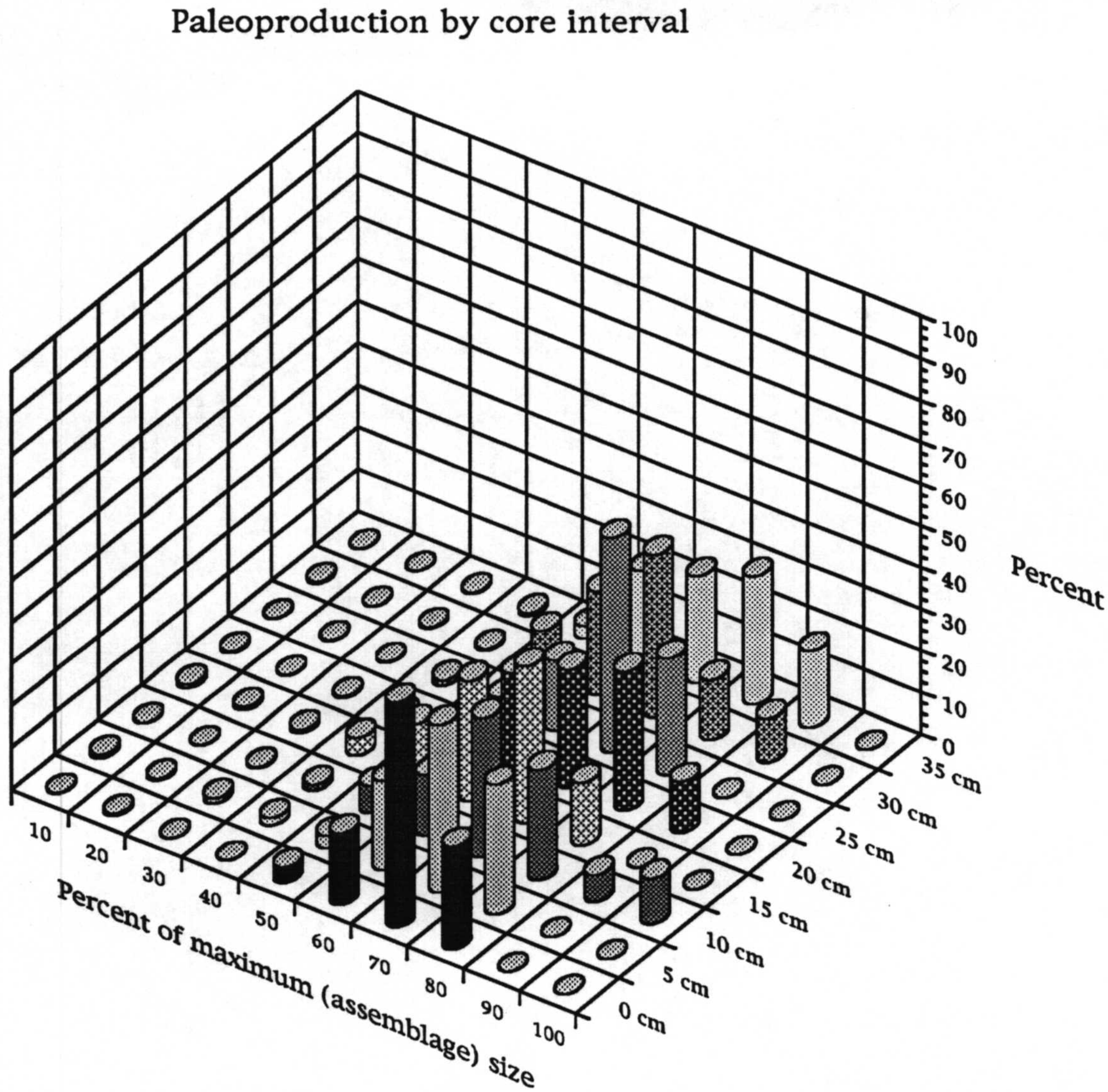
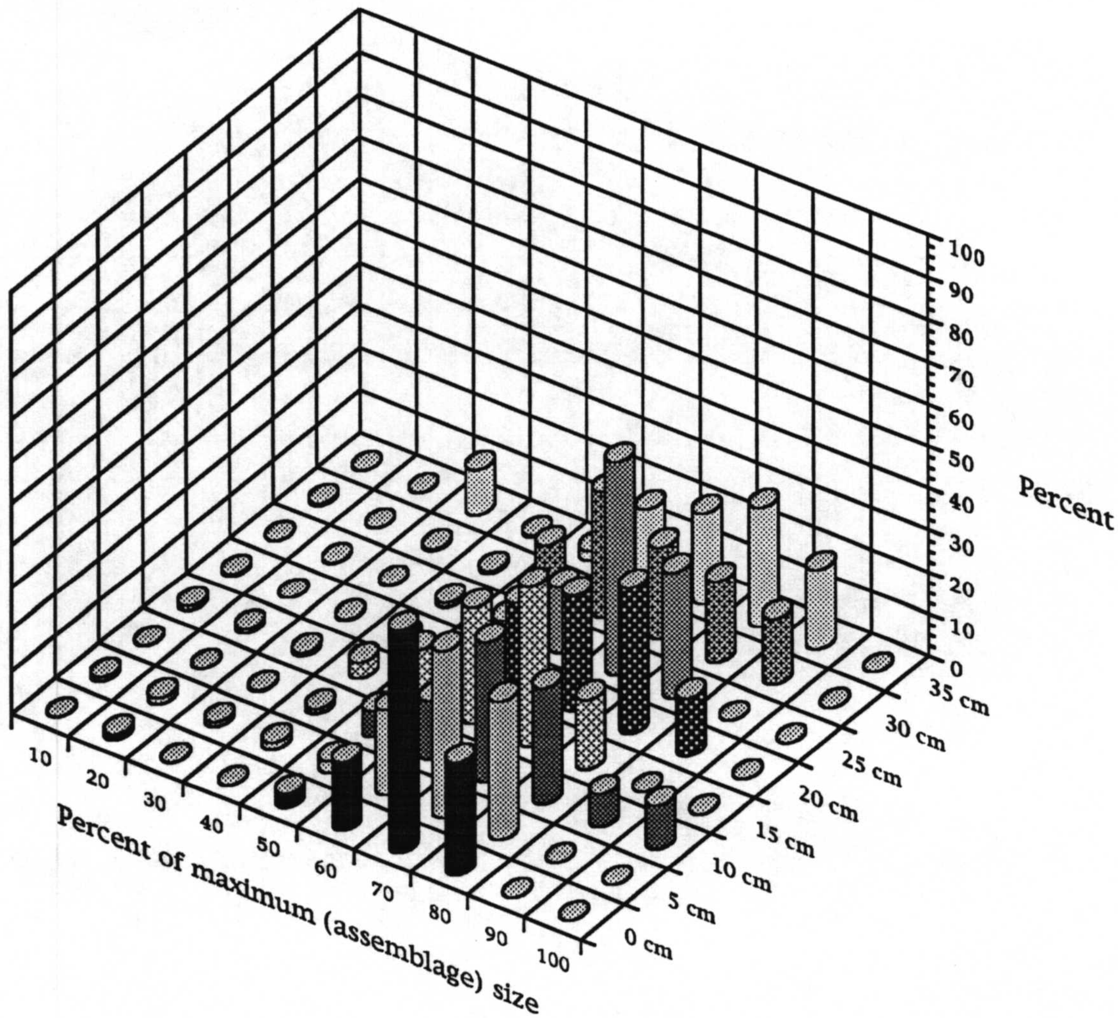


Figure D.52. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GB-386. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

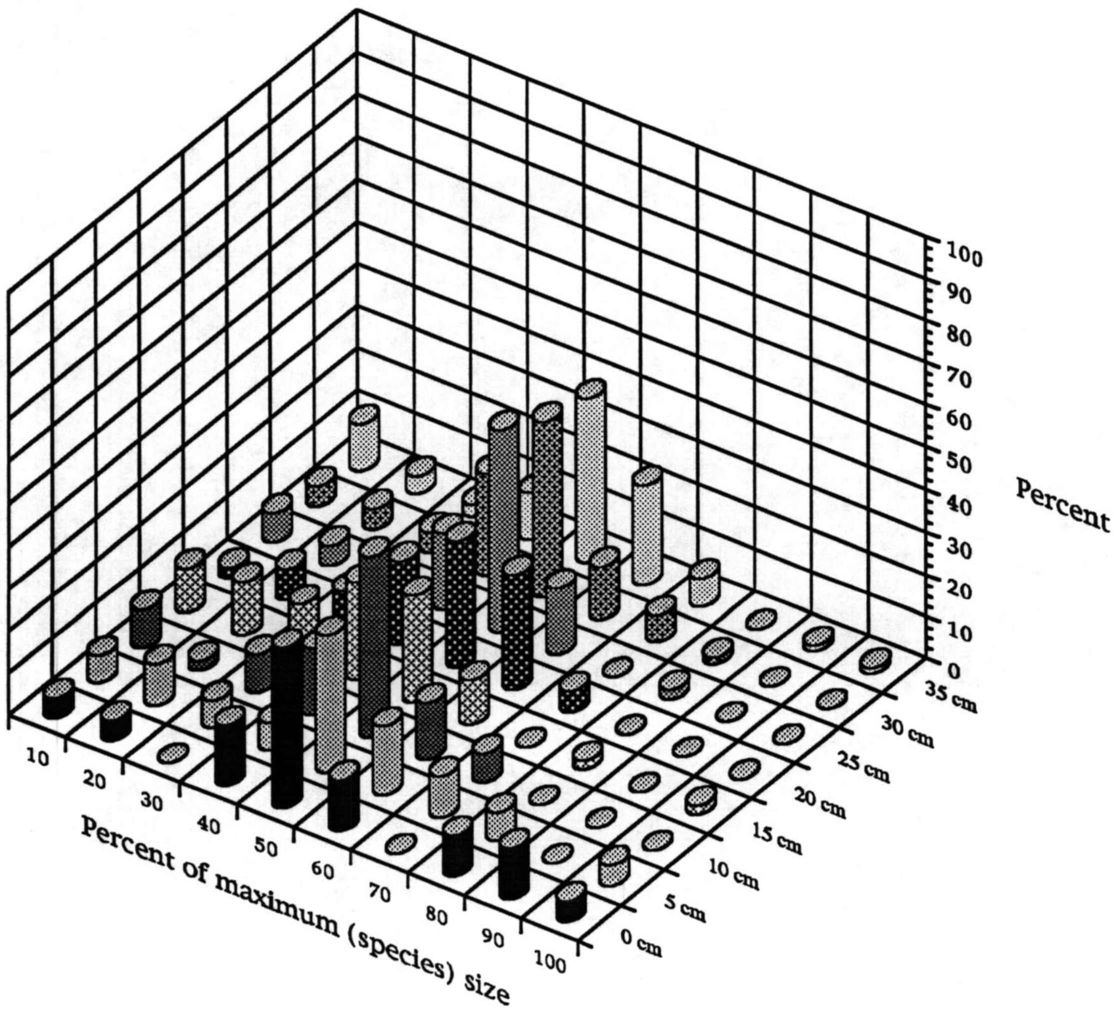
Paleoingestion by core interval



Garden Banks 386

Figure D.53. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GB-386. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

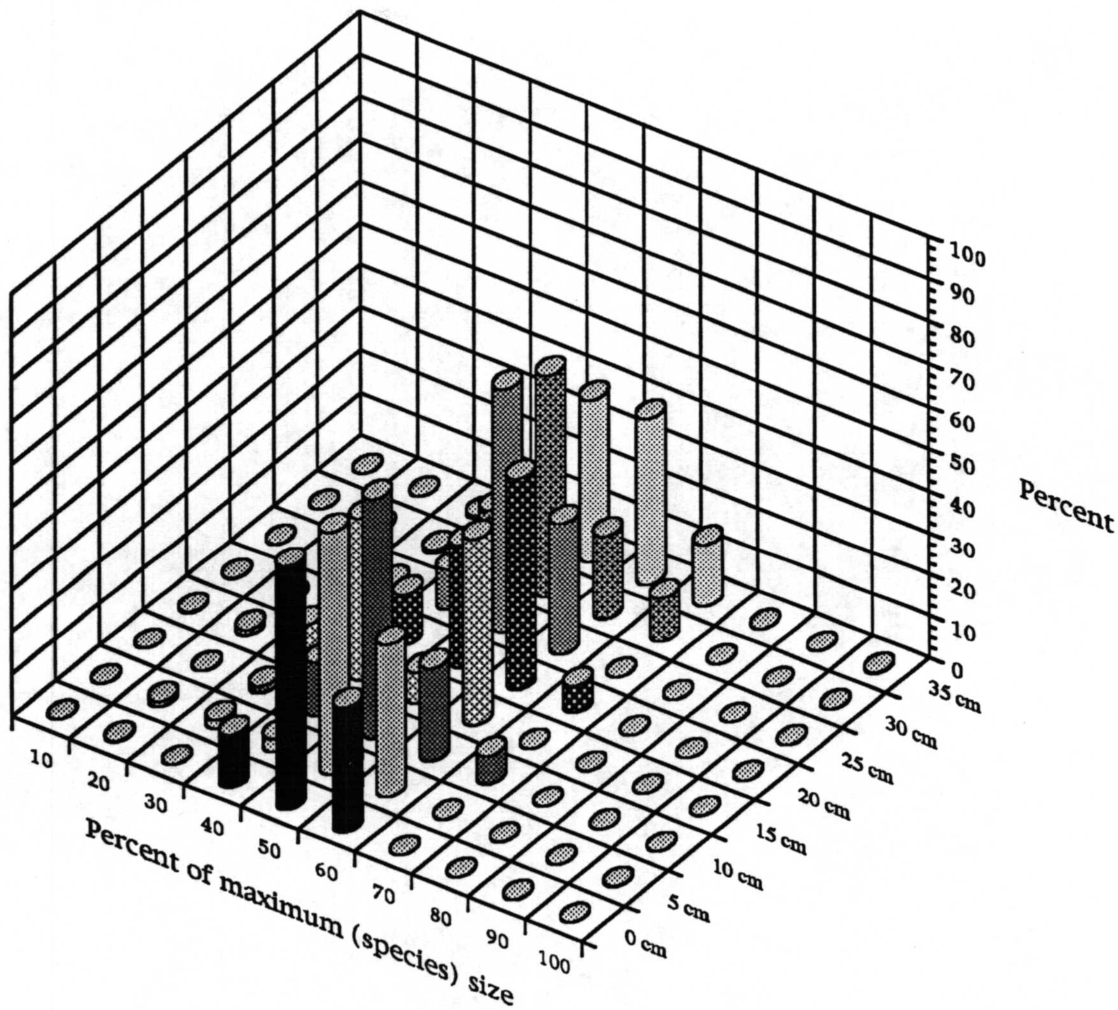
Numerical abundance by core interval



Garden Banks 386

Figure D.54. The size-frequency distribution for 5 cm core intervals at GB-386. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

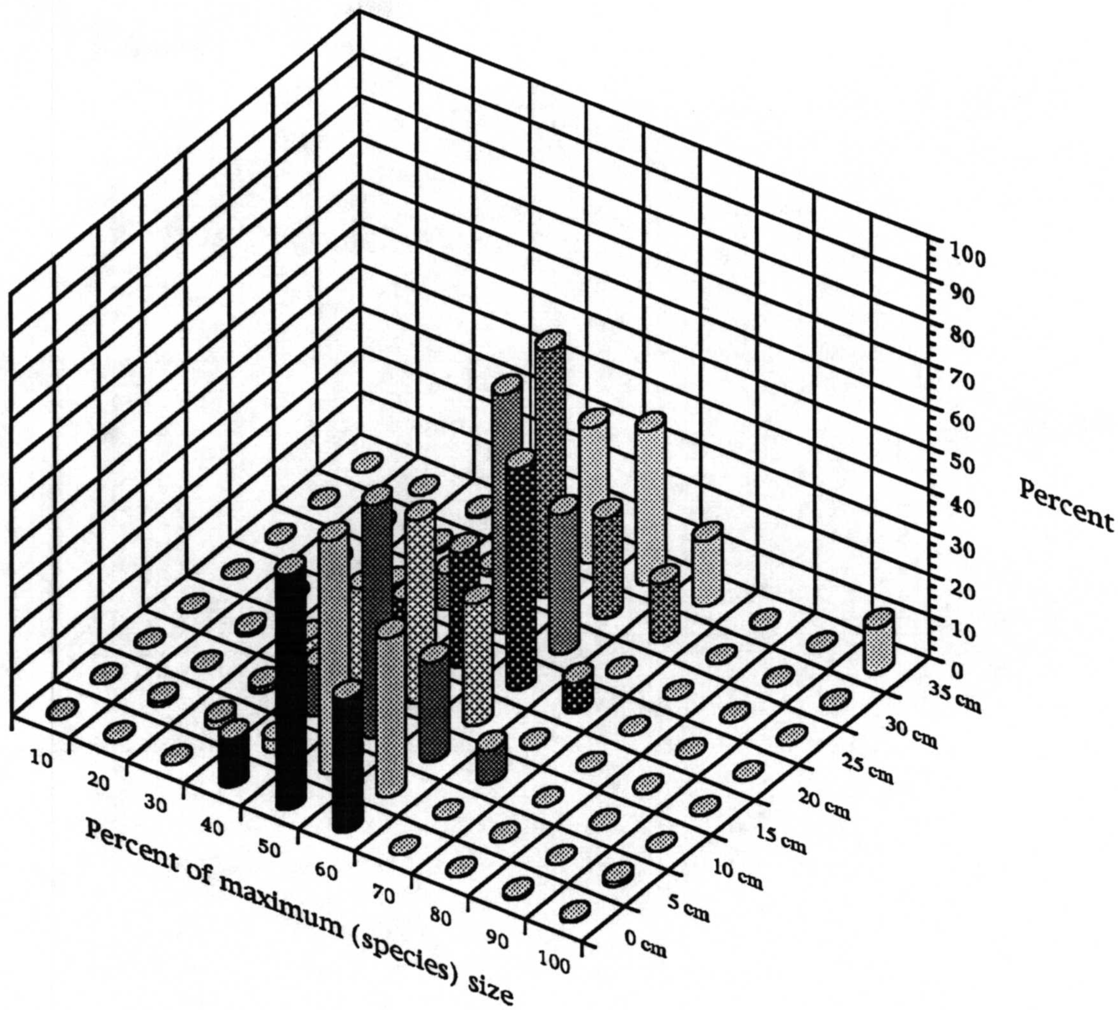
Paleoproduction by core interval



Garden Banks 386

Figure D.55. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GB-386. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Paleoingestion by core interval



Garden Banks 386

Figure D.56. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GB-386. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

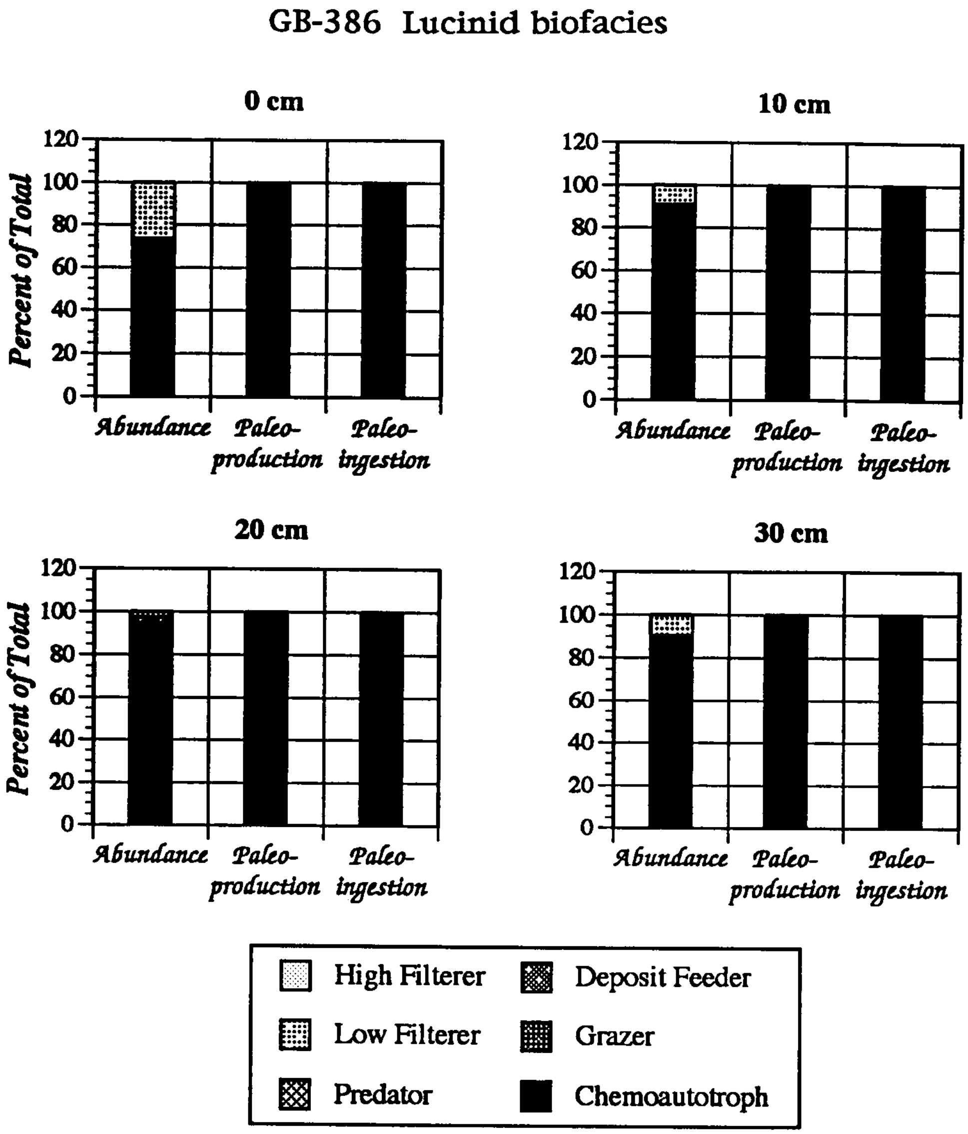


Figure D.57. The cumulative feeding guild structure of several core intervals from the lucinid biofacies at GB-386, defined by numerical abundance, paleoproduction, and paleoingestion.

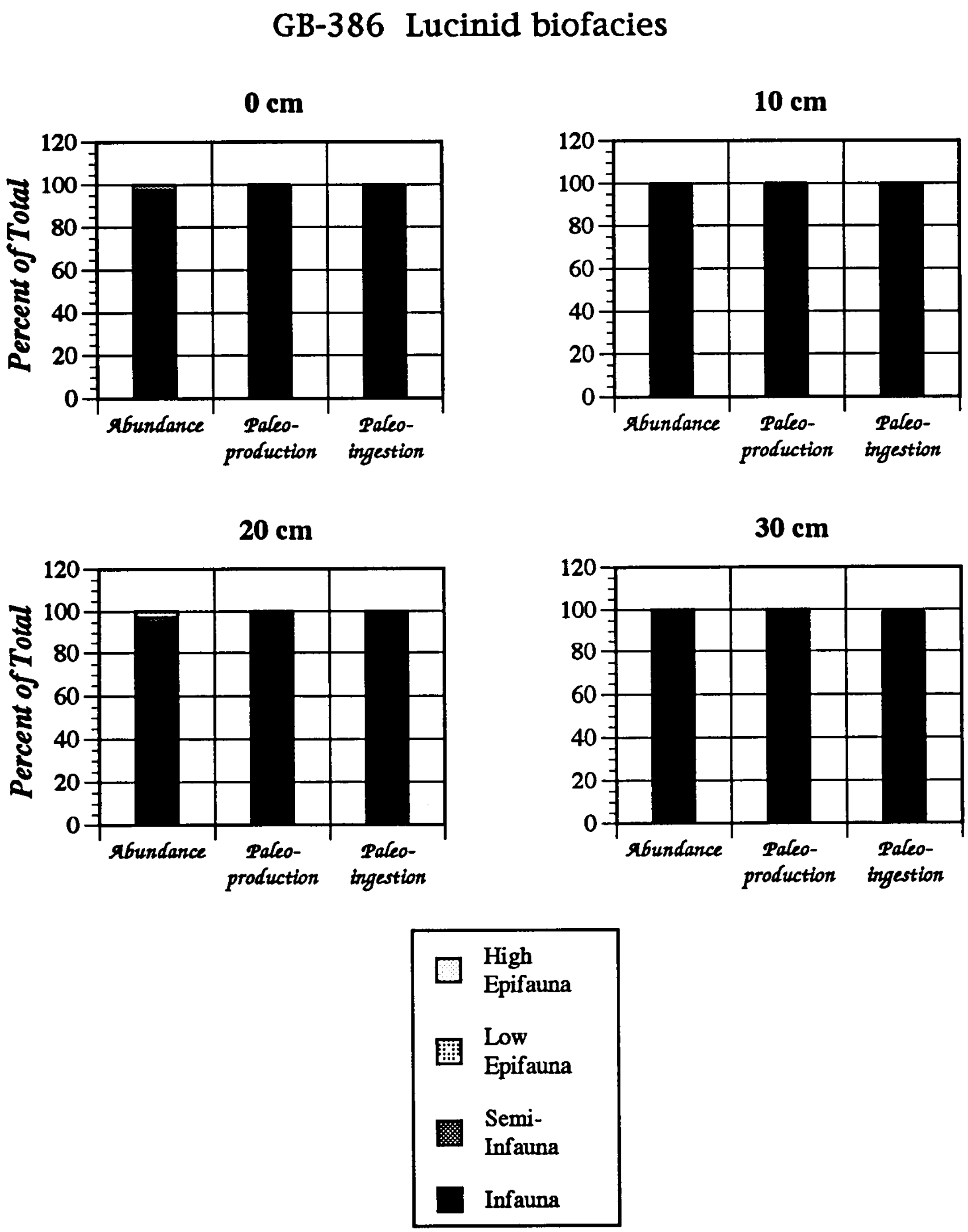


Figure D.58. The cumulative habitat tier structure of several core intervals from the lucinid biofacies at GB-386, defined by numerical abundance, paleoproduction, and paleoingestion.

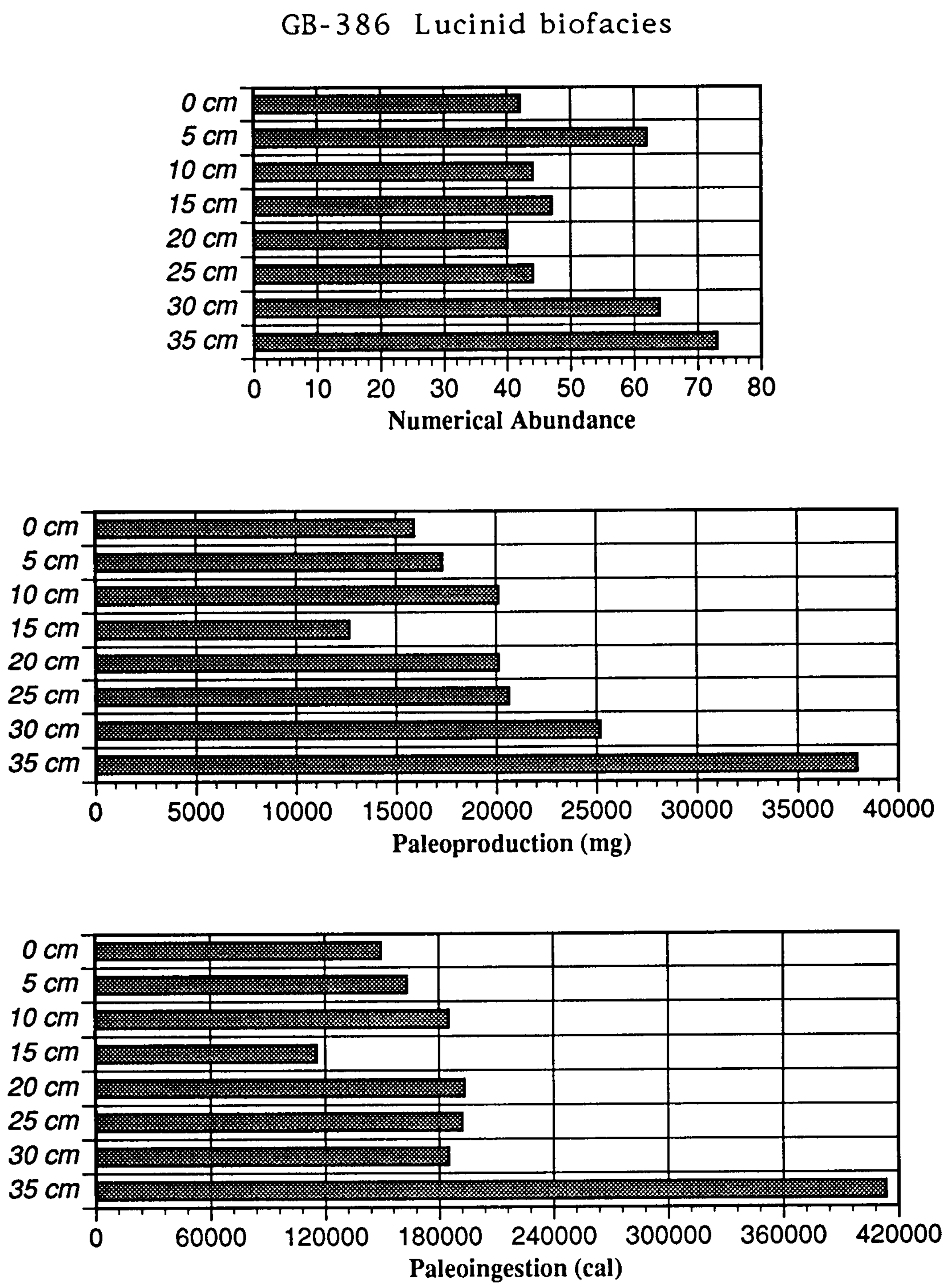


Figure D.59. The numerical abundance, paleoproduction, and paleoingestion contributed by each 5 cm core interval from the lucinid biofacies at GB-386.

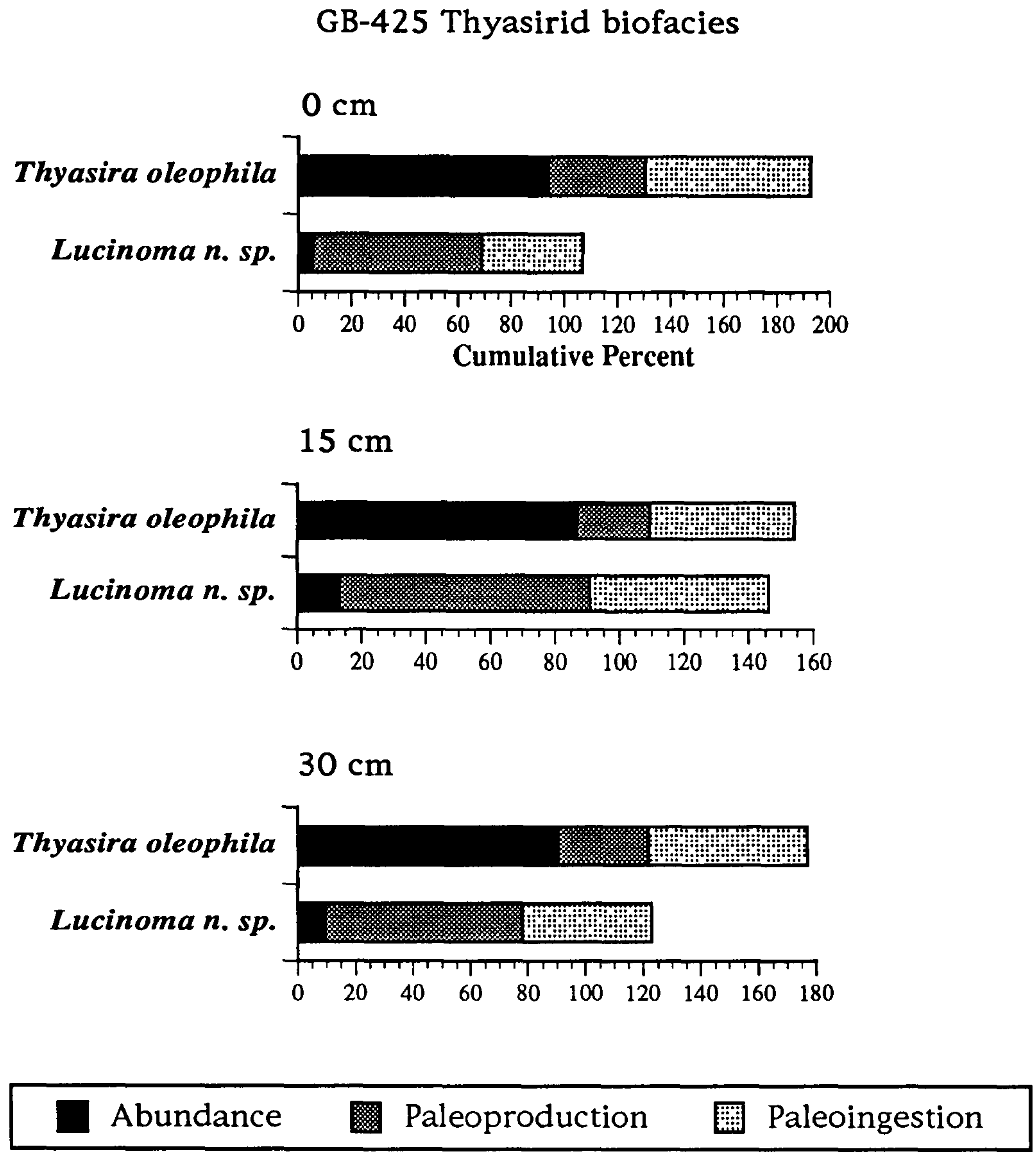


Figure D.60. The species composition of several core intervals at GB-425. Rank orders by numerical abundance, paleoproduction, and paleoingestion of taxa contributing 1% or more to the death assemblage.

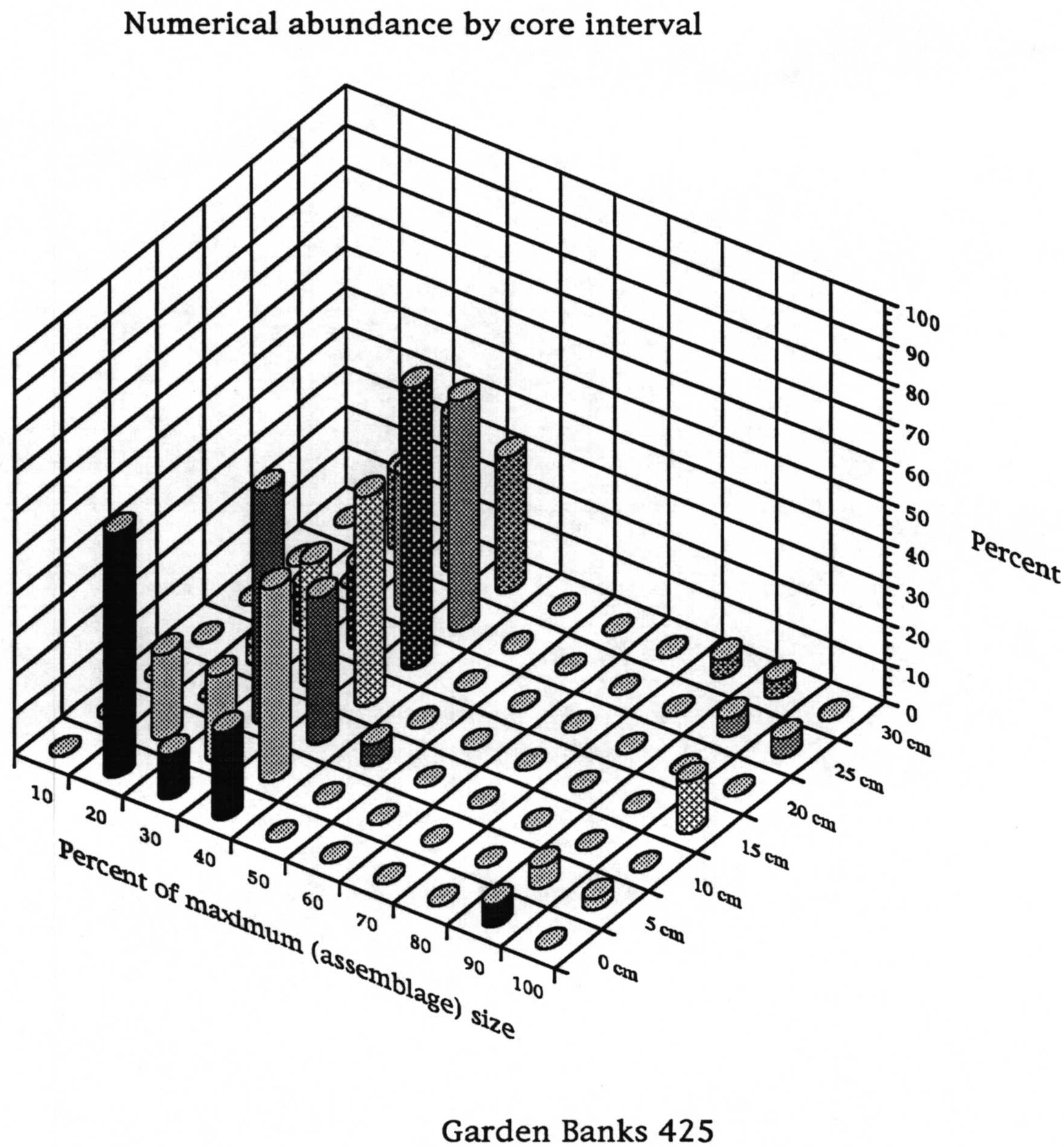


Figure D.61. The size-frequency distribution for 5 cm core intervals at GB-425. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

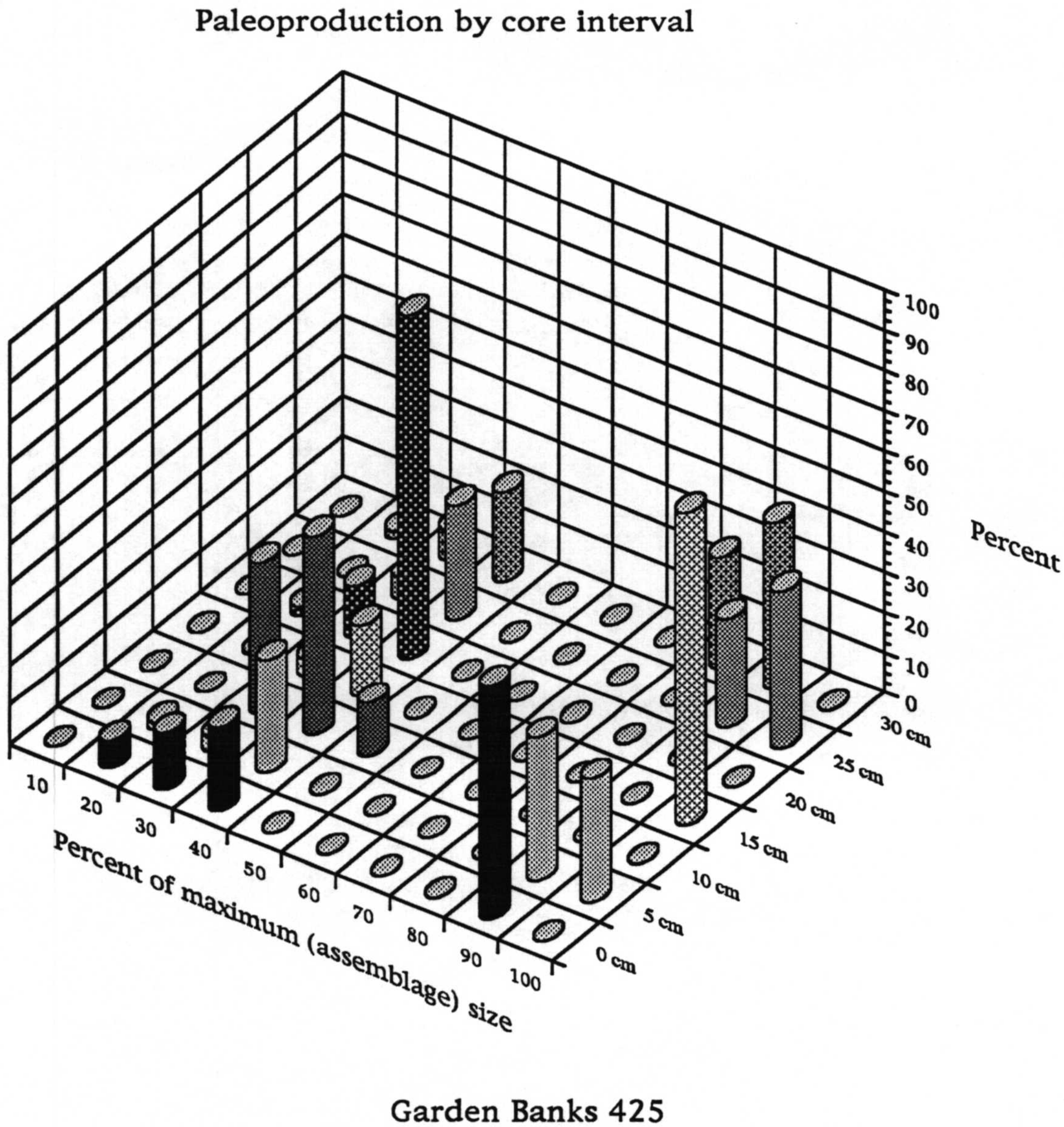


Figure D.62. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GB-425. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

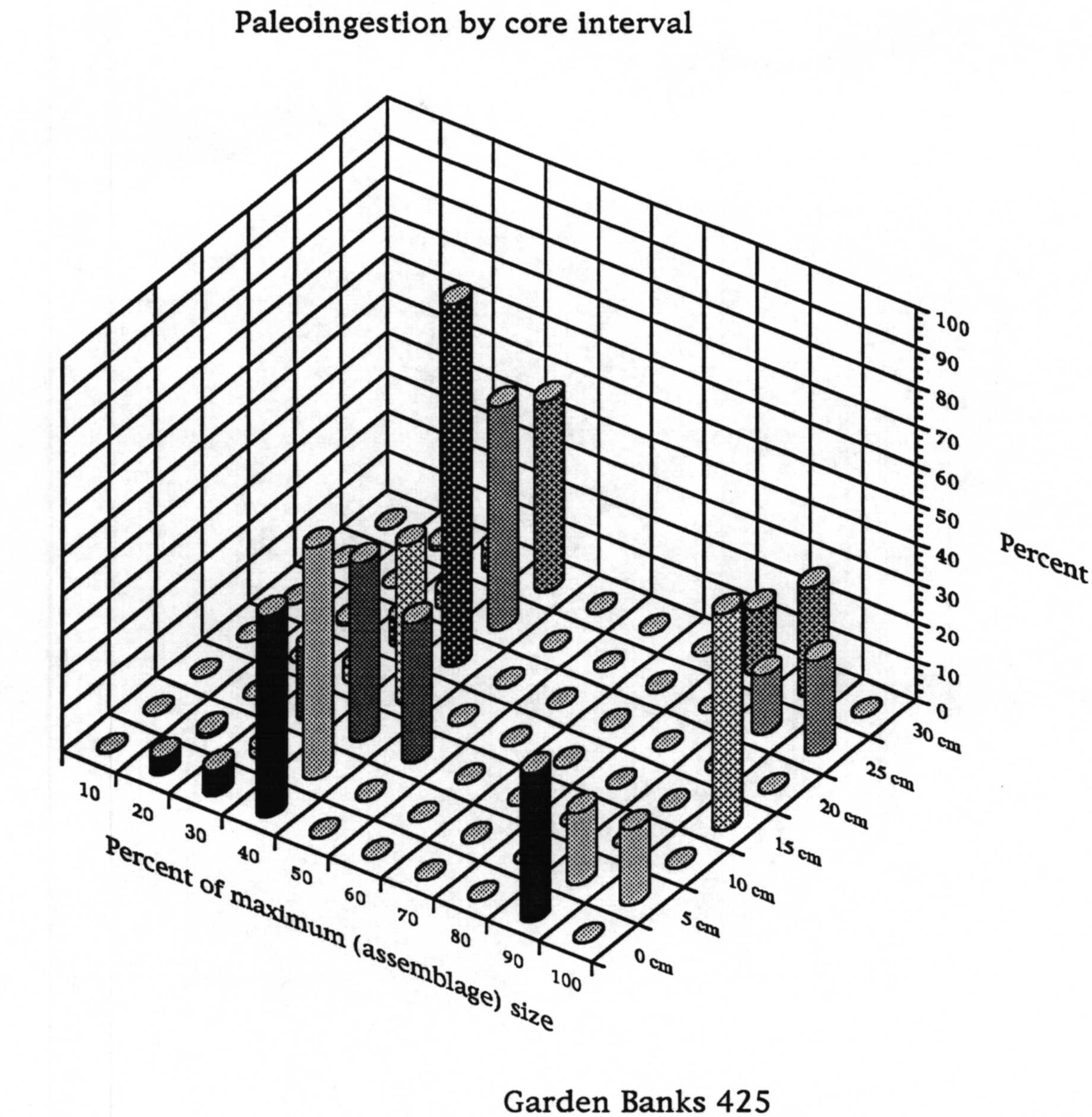
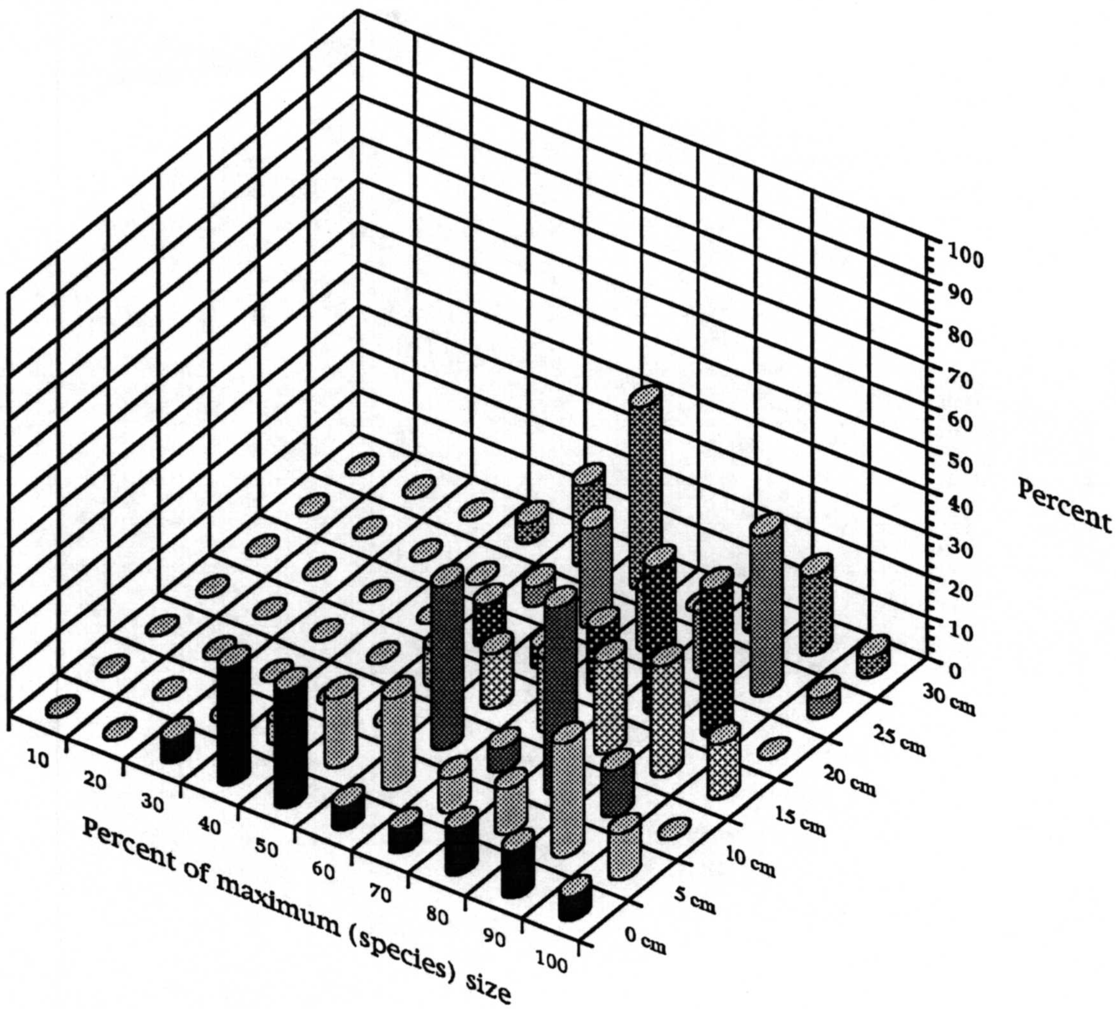


Figure D.63. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GB-425. Size classes are defined as the tenth percentiles of the size of the largest individual in each assemblage. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Numerical abundance by core interval



Garden Banks 425

Figure D.64. The size-frequency distribution for 5 cm core intervals at GB-425. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Numerical abundance represents the fraction of the total number of individuals is each size class.

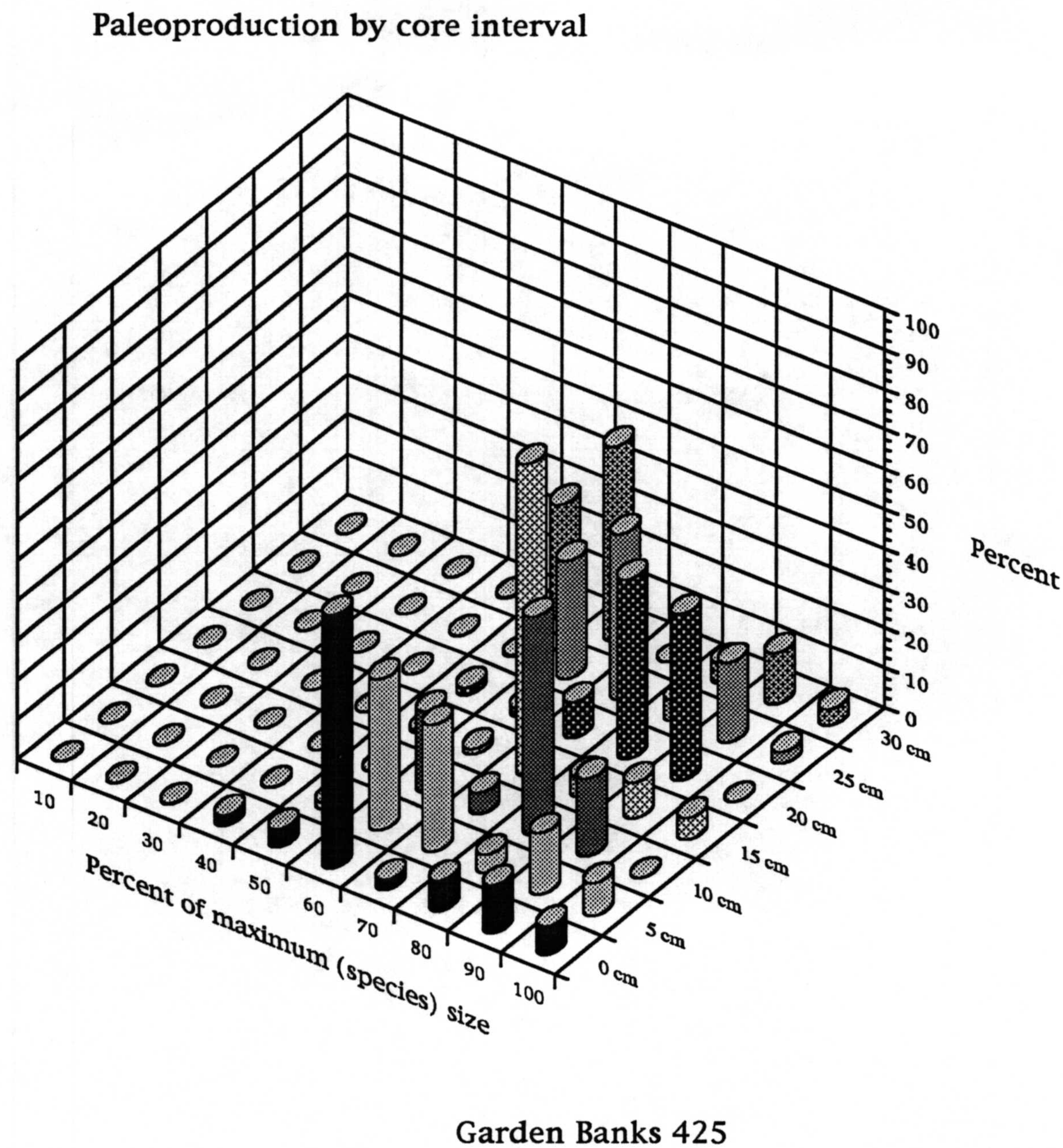
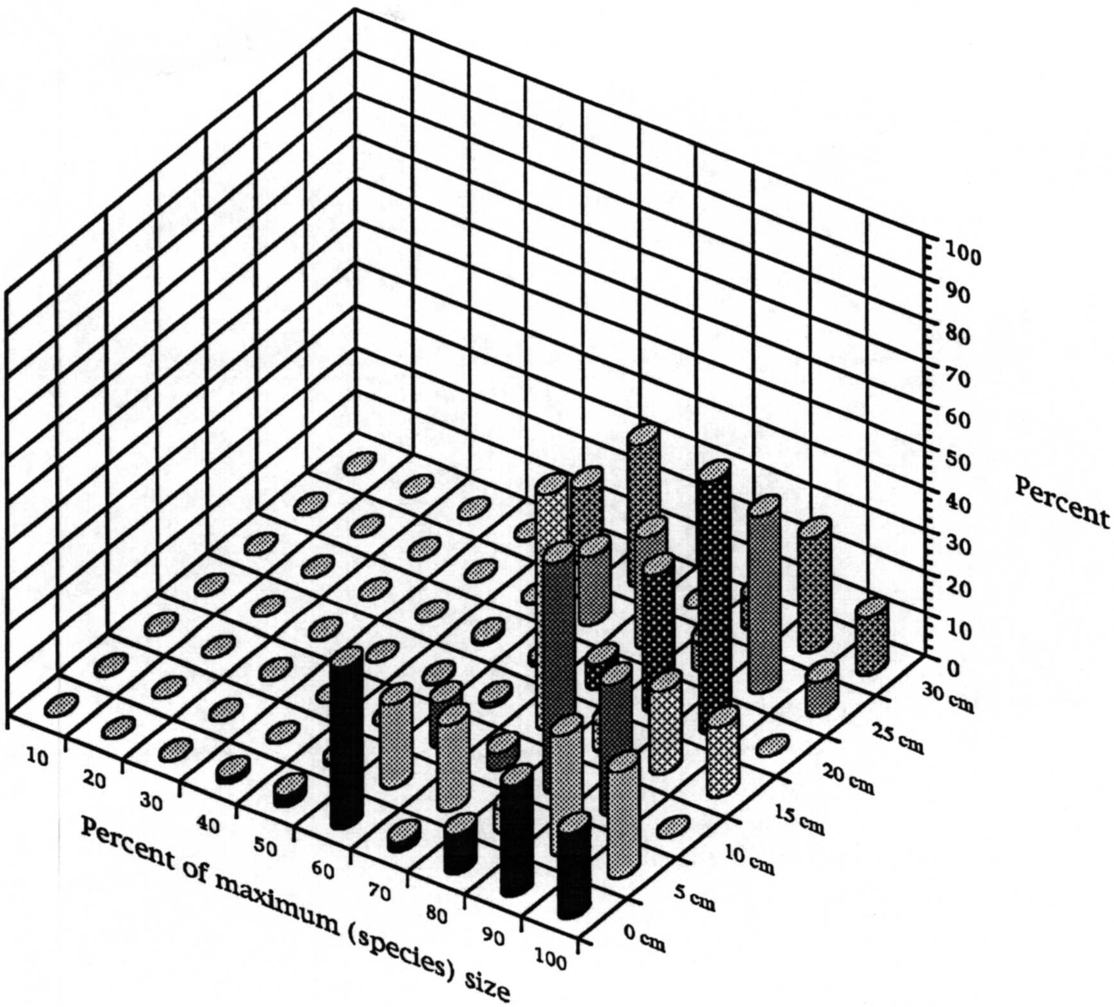


Figure D.65. The apportionment of paleoproduction among the size classes for 5 cm core intervals at GB-425. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

Paleoingestion by core interval



Garden Banks 425

Figure D.66. The apportionment of paleoingestion among the size classes for 5 cm core intervals at GB-425. Size classes are defined as the tenth percentiles of the size of the largest individual of each species. Listed values are the upper boundaries of the size classes. Paleoproduction represents the fraction of each assemblage total contributed by the individuals in each size class.

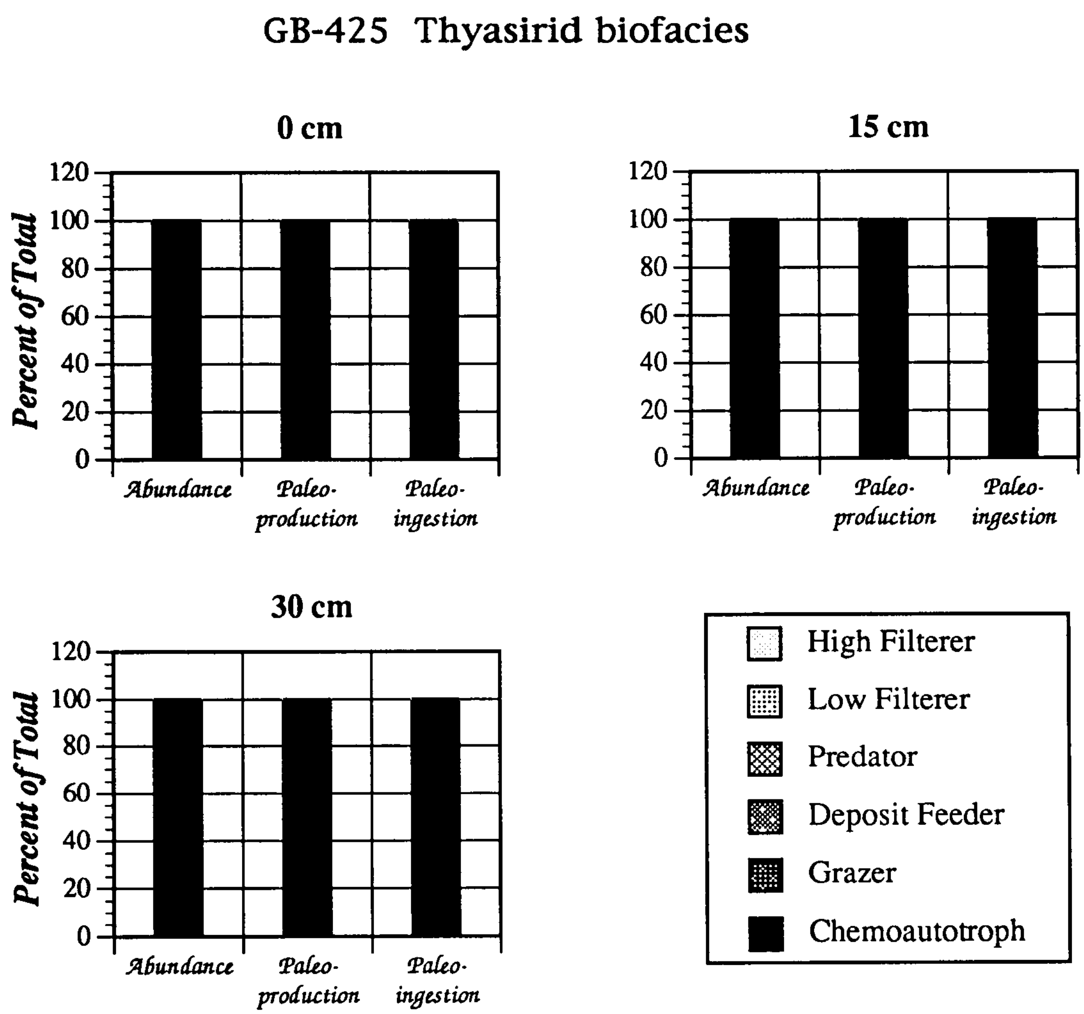


Figure D.67. The cumulative feeding guild structure of several core intervals from the lucinid biofacies at GB-425, defined by numerical abundance, paleoproduction, and paleoingestion.

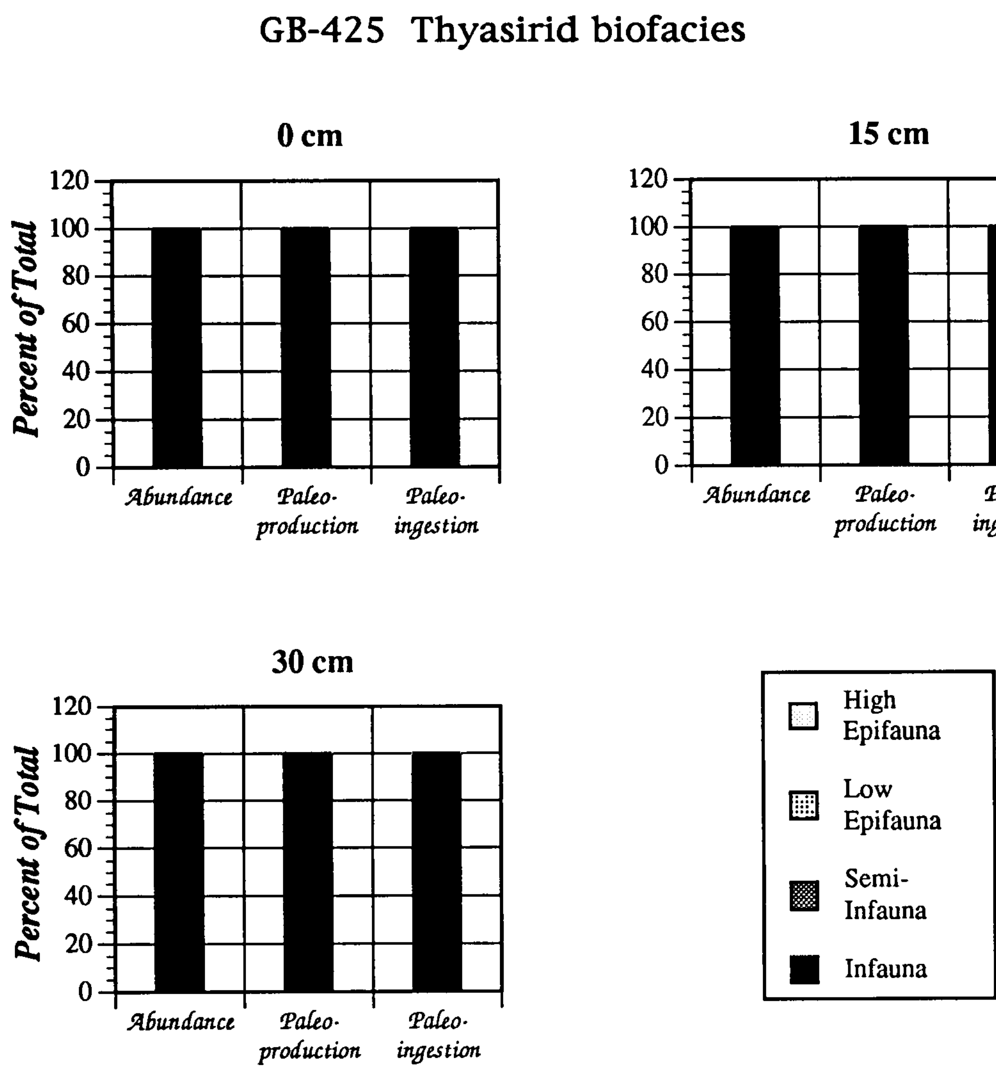


Figure D.68. The cumulative habitat tier structure of several core intervals from the lucinid biofacies at GB-425, defined by numerical abundance, paleoproduction, and paleoingestion.

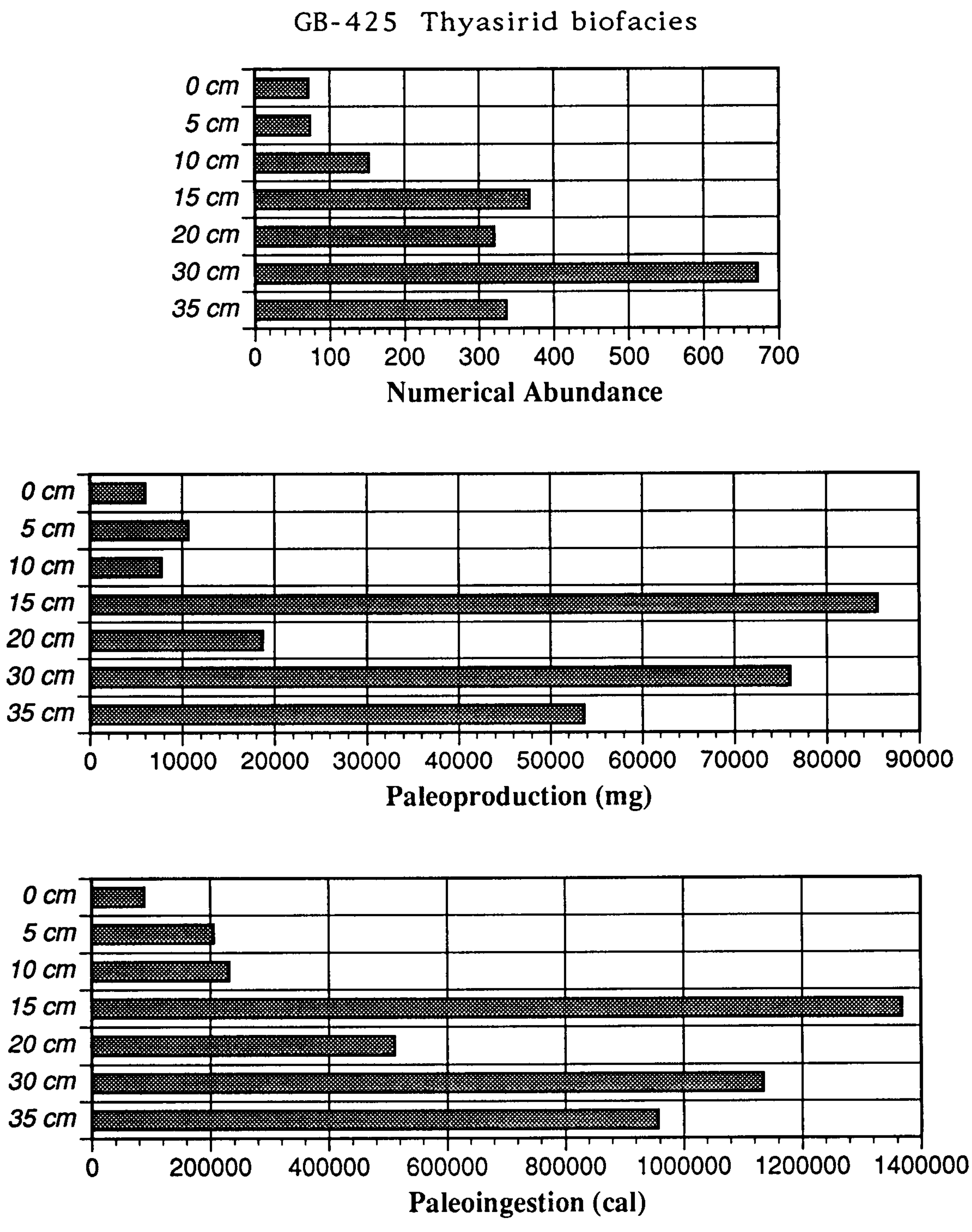


Figure D.69. The numerical abundance, paleoproduction, and paleoingestion contributed by each 5 cm core interval from the thyasirid biofacies at GB-425.

Appendix E

Figure E.1 Mosaic of 35 mm photographs from GC 234 Site 2. Grid spacing is approximately 50 cm.

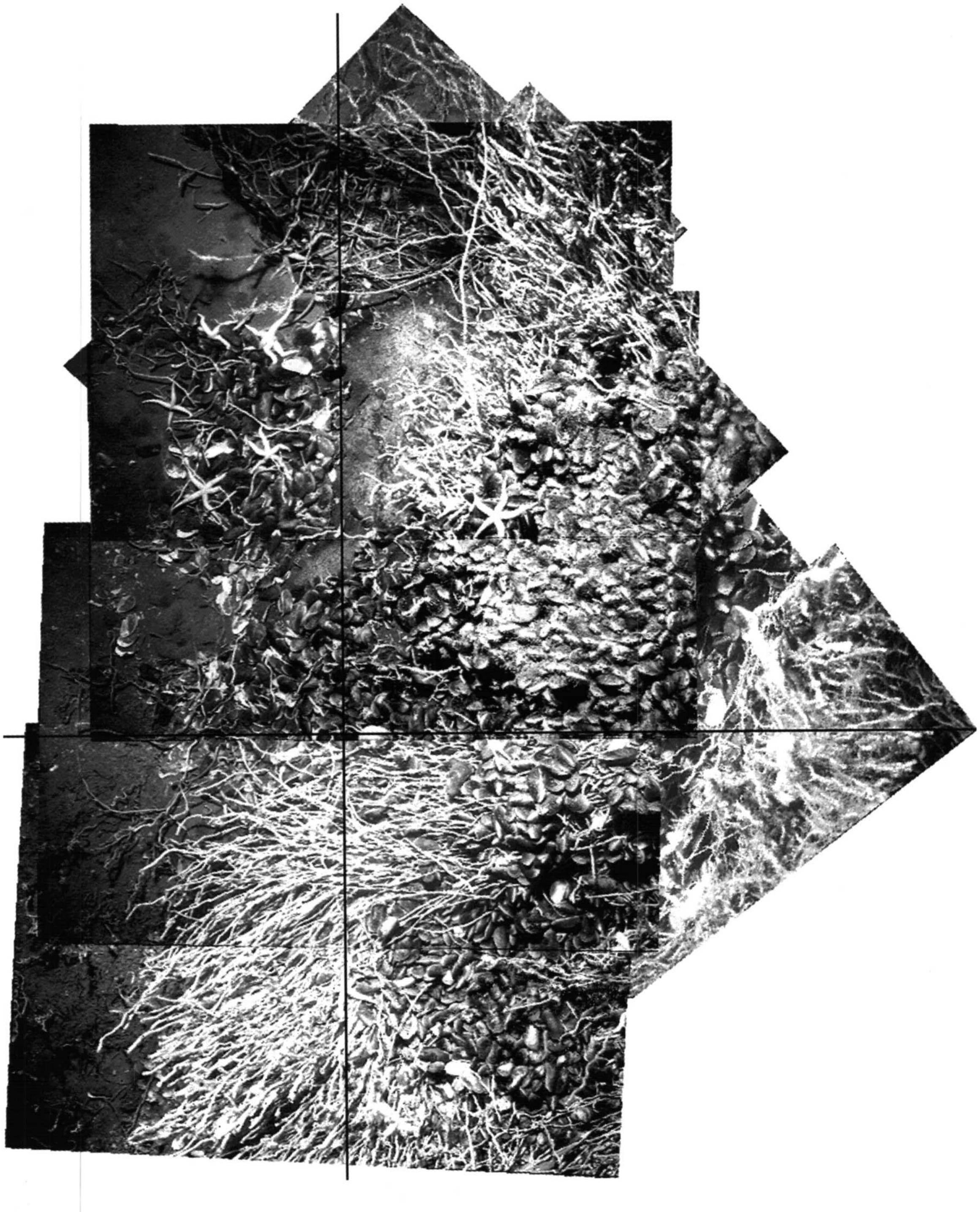


Figure E.2 Mosaic of 35 mm photographs from GC 234 Site 1. Grid spacing is approximately 50 cm.

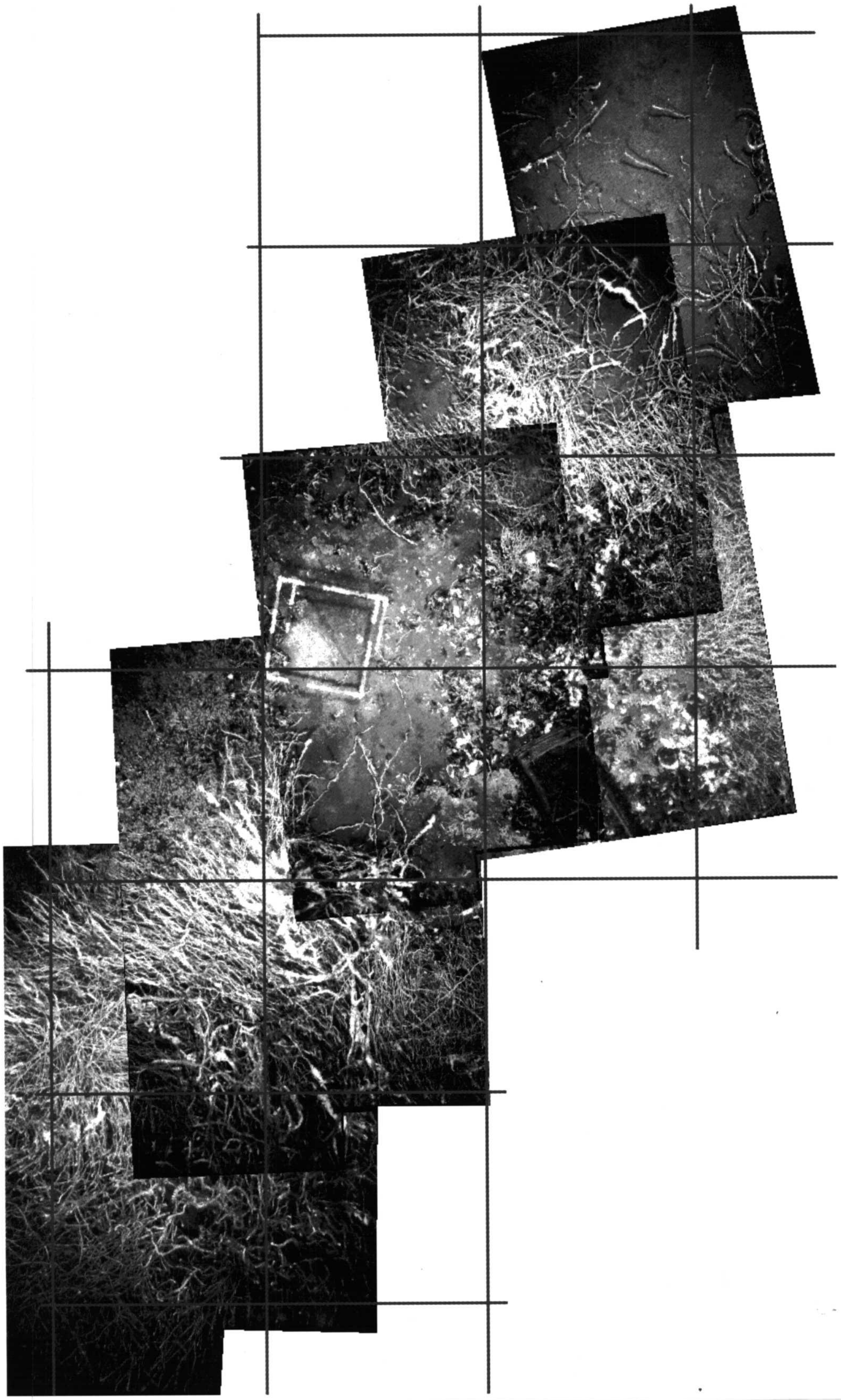


Figure E.3 Mosaic of 35 mm photographs from Viosca Knoll 1992. Grid spacing is approximately 50 cm.

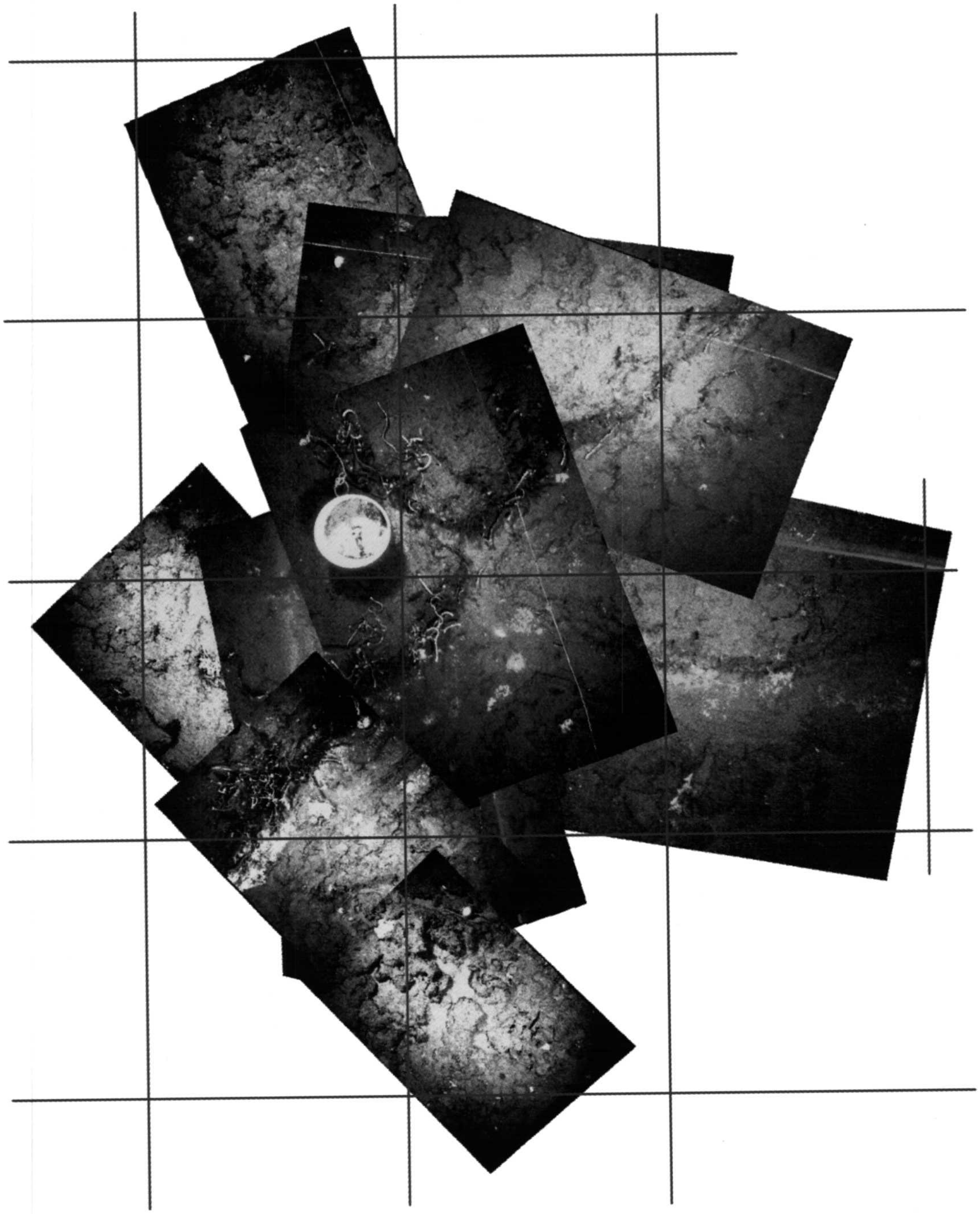


Figure E.4 Mosaic of 35 mm photographs from Viosca Knoll 1991. Grid spacing is approximately 50 cm.

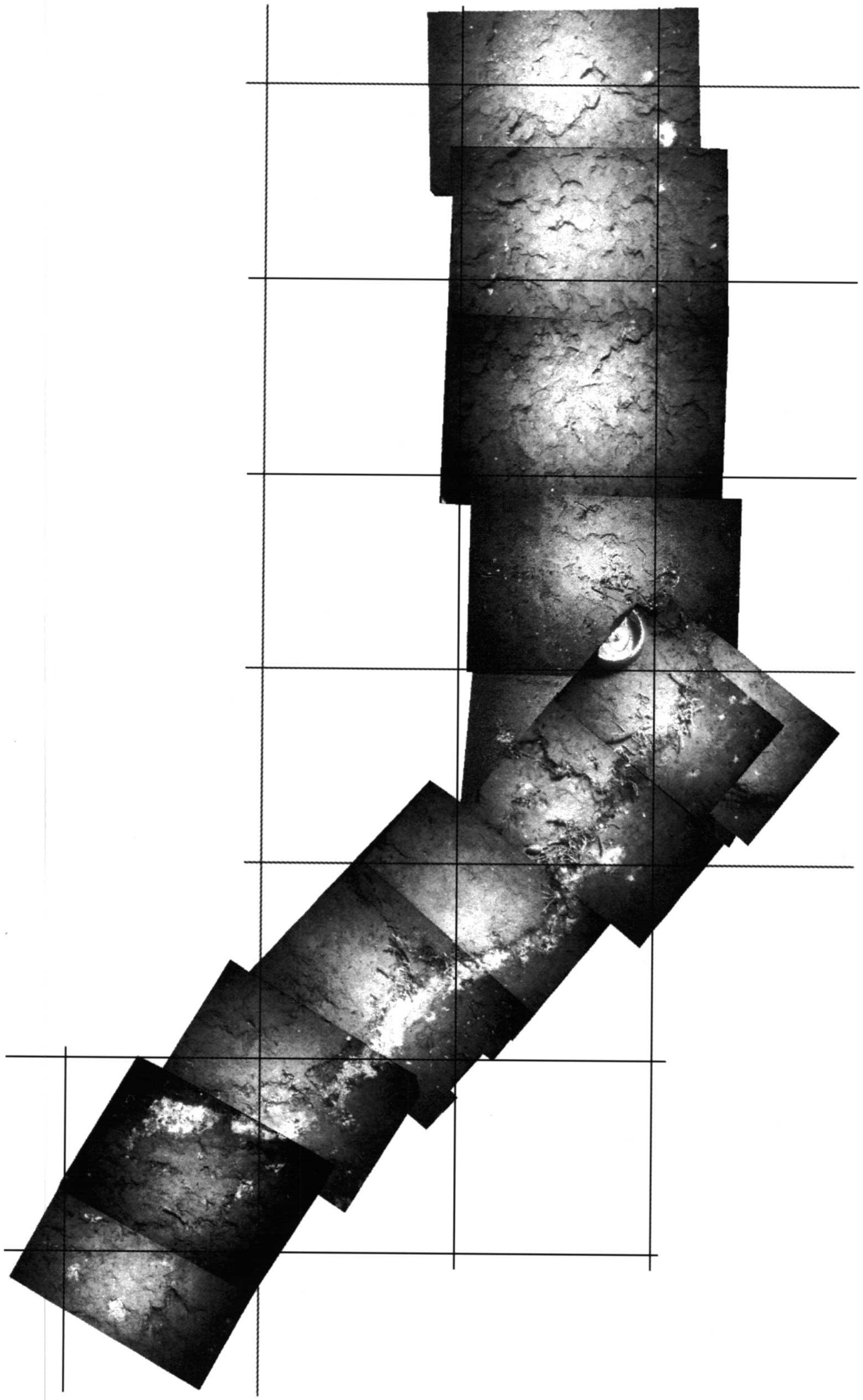


Figure E.5 Mosaic of 35 mm photographs from GC 184 Bucket 1, 1991. Grid spacing is approximately 50 cm.

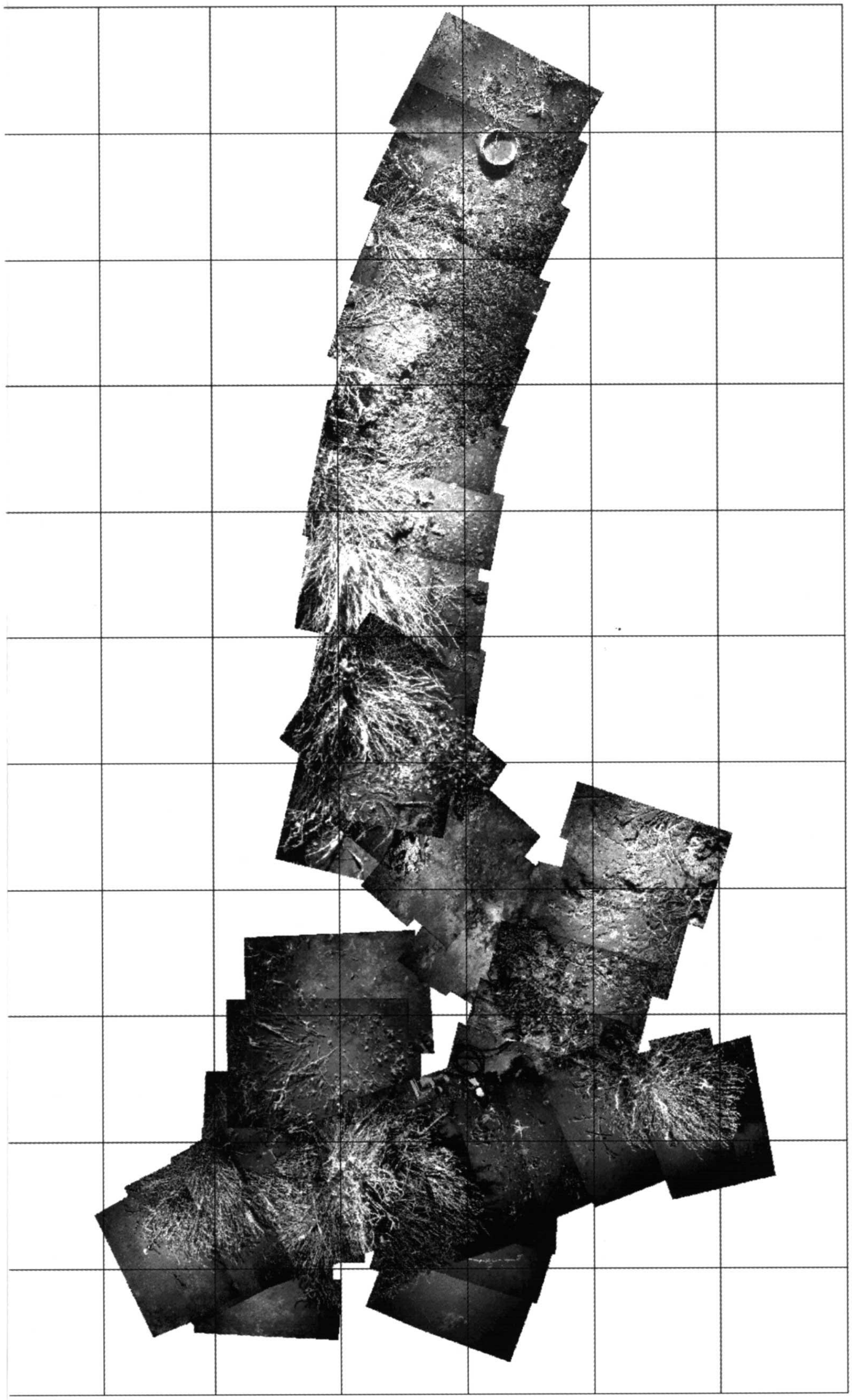


Figure E.6 Mosaic of 35 mm photographs from GC 184 Bucket 1, 1992. Grid spacing is approximately 50 cm.

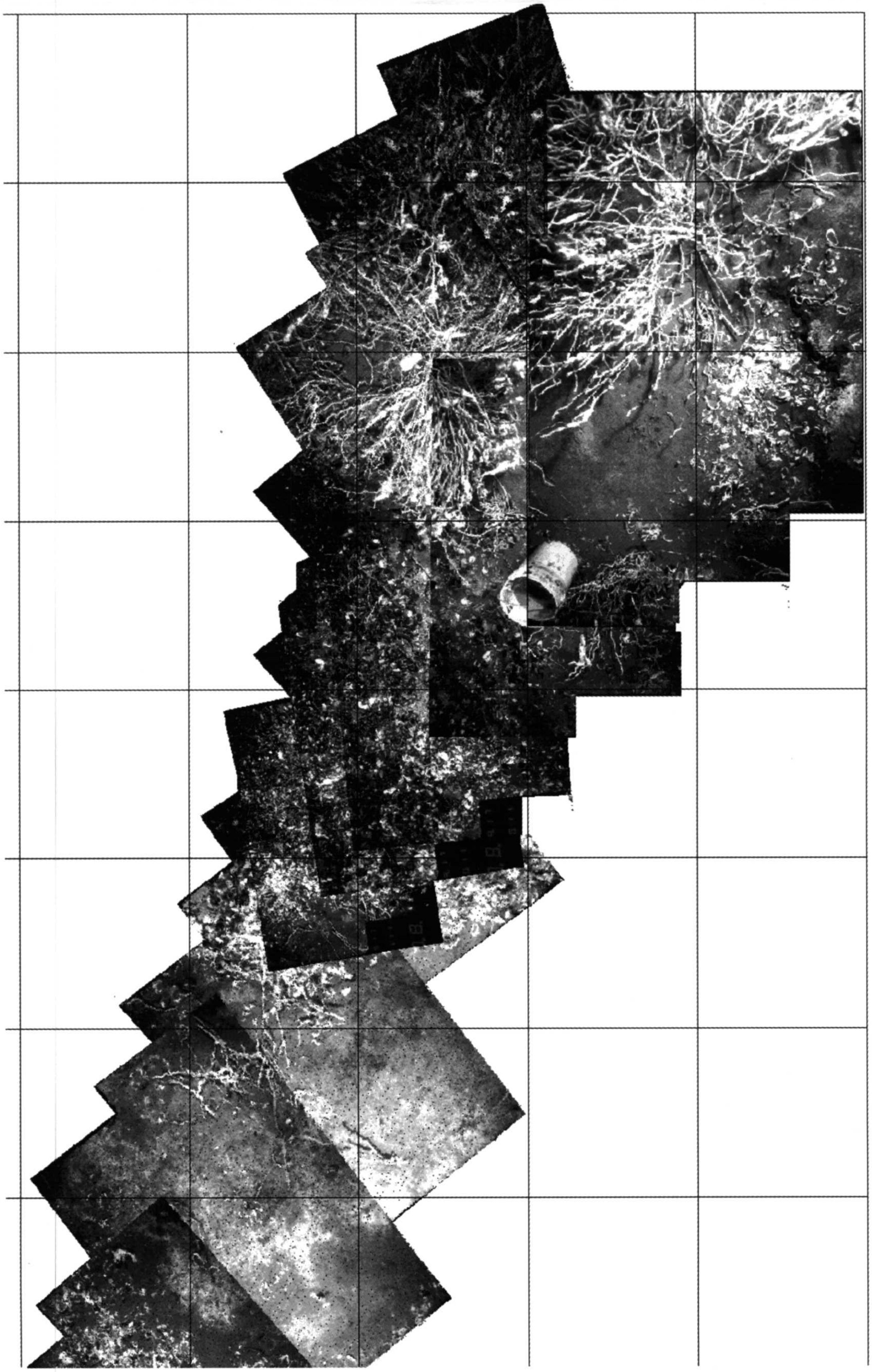


Figure E.7 Mosaic of electronic still camera images collected from submarine NR-1 at GC 184 Bucket 1 site. Grid spacing is 50 cm.

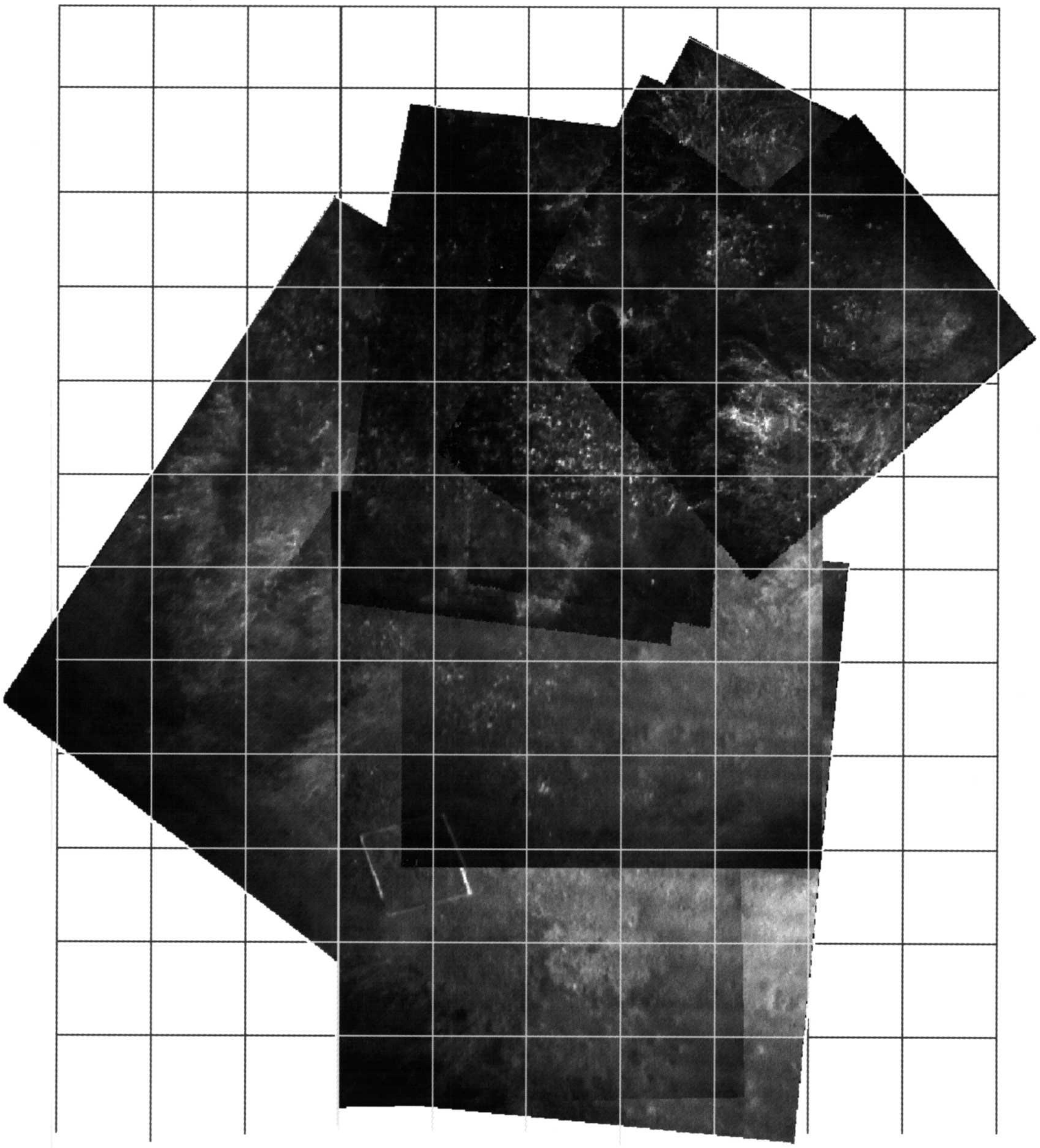


Figure E.8 Mosaic of 35 mm photographs from Bucket 2, 1991. Grid spacing is approximately 50 cm.

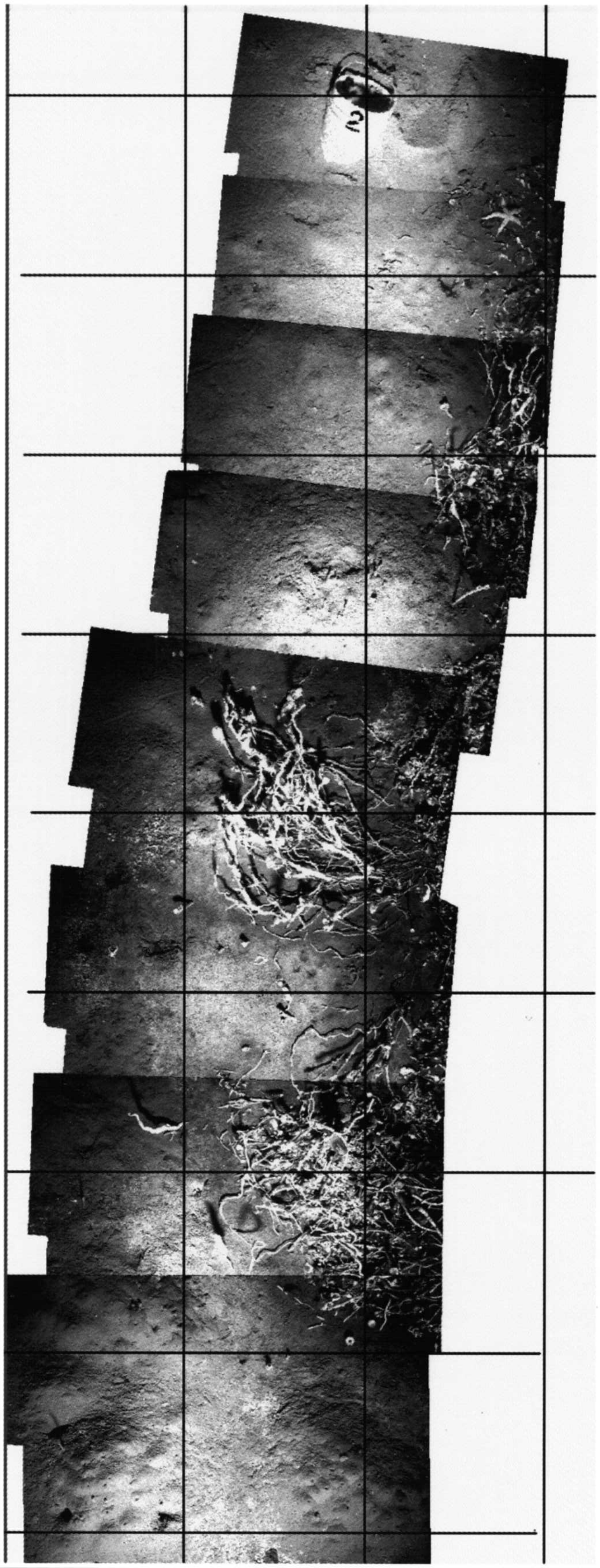
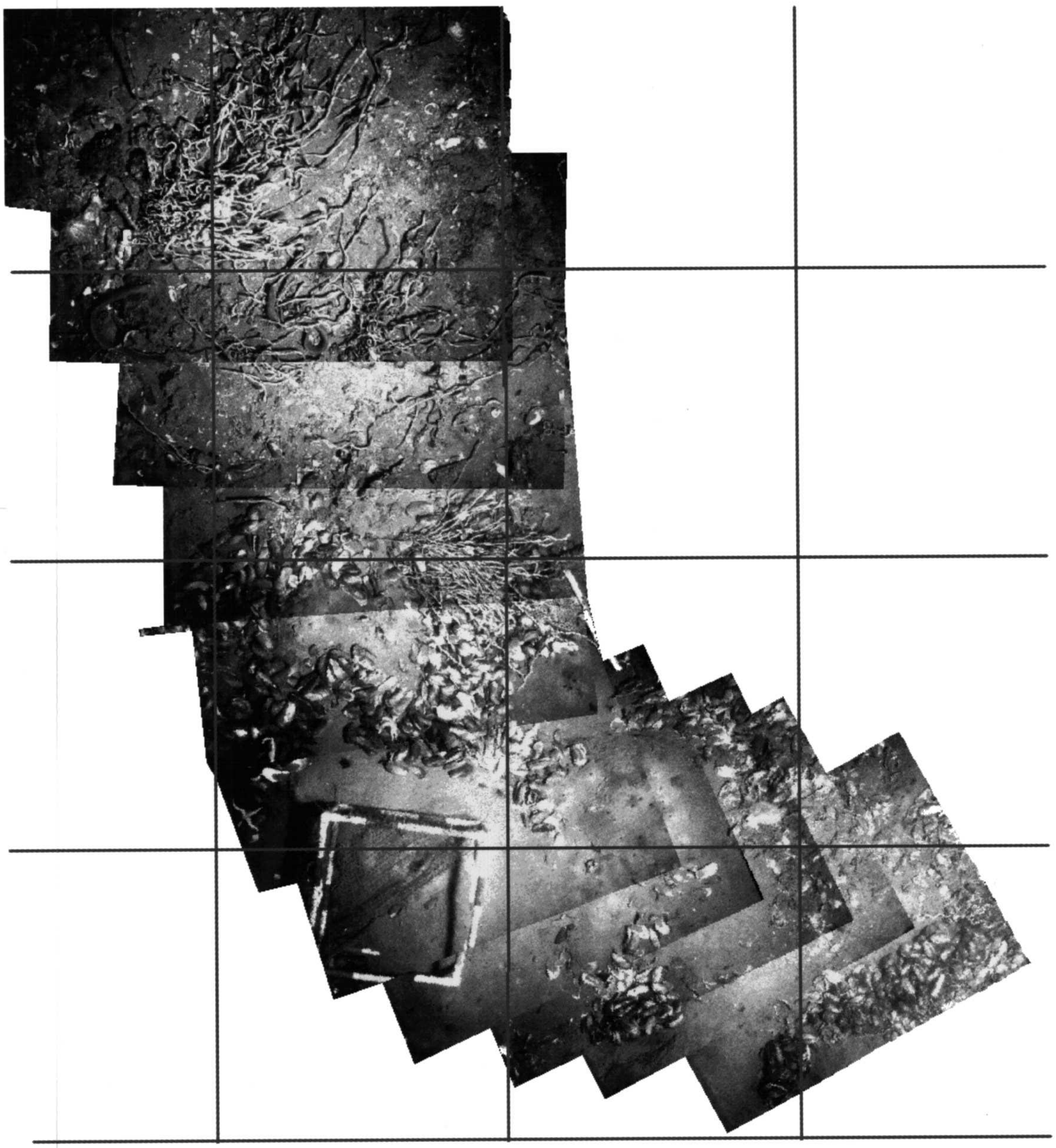


Figure E.9 Mosaic of 35 mm photographs from GC 234 Site 2. Marker cube is approximately 50 cm on a side.



Appendix F

Macroinfauna Component

F.1 Introduction

This section reports on the results of sediment coring and processing with a 300 μm screen at hydrocarbon seep sites. While preliminary examination indicates the seep communities are comprised of megafauna, this task was included for completeness as per the specifications of the RFP. Equipment testing alone was proposed for the 1991 field year, with full sampling planned in 1992.

F.2 Methods and Design

The proposed research consisted of two parts. In 1991, the feasibility of using the JSL grab in place of the more accepted ALVIN-type box core was to be examined by collecting four replicate JSL grabs and four replicate ALVIN-type box cores. In 1992, five pairs of the selected coring device were to be from within to 100 m away from a mussel site. Due to the funding limitations and the higher priorities associated with the megafauna tasks, this series would not be replicated. During the pre-dive meeting of the Scientific Review Board in 1992, a greatly reduced design was adopted in which only three paired samples would be taken from adjacent to a mussel mat within 10 m away.

The JSL grab is an integral part of the hydraulic manipulator on the *Johnson Sea-Link*. It consists of two semi-cylindrical 19.2 cm jaws rotating with a radius of 17.8 cm about a common axis to bite into and retain sediments. Under ideal conditions, the bite of the JSL grab covers 341 cm^2 square meters of bottom. The JSL grab is powerful, extremely easy to use and can take repeated samples in just a few minutes. The real problem with the grab is that samples must be transferred into the "critter gitter" of the submersible. This is done by positioning the closed grab over a collection chamber and opening the grab so that the sample falls into the chamber. It is obvious that large amounts of sediment are lost during this transfer, and likely that many of the smaller specimens are also lost.

ALVIN-type box cores are manipulator deployed samplers that are inserted into the sediment, closed and then returned and sorted aboard the submersible. Since they are not opened until securely on deck, there is no sample loss. The box core covers 232 cm^2 of the bottom, and removes a uniform bite of sediment. However, they are less practical to use. They compete for scientific payload on the sub. They are more time consuming than the JSL grab, and they are prone to mechanical failure. The most common failure is associated with closure of the core. Closure is affected by rotating the handle of the core. If the core is not inserted deeply into cohesive sediments, it tends to rotate rather than close. If the jaws encounter any resistance, such as carbonate gravel, a safety pin shears preventing damage but taking no sample and disabling the sampler. Efficiency, therefore, favors the use of the JSL grab.

F.3 Results

F.3.1 JSL Grab Versus ALVIN Box Core Intercomparison

The intercomparison did not produce useful faunal comparisons, but did point out the difficulty of traditional megainfaunal sampling in areas of hard substrates. Of four replicate box cores attempted, only two were obtained with one of dubious quality. In all cases, failure was due to the presence of massive carbonates or carbonate gravel's buried under a thin cover of sediments. This prevented penetration or core closure. By contrast, the much more powerful JSL grab easily recovered samples from gravel, but lost large amounts of sediment during transfer.

Without replication, no meaningful comparison can be made. However, the one successful ALVIN-type core contained ostracods, harpacticoid copepods, and tanaiids totally absent from the JSL grabs. Therefore, it was concluded that the ALVIN-type device was needed, but that sample location must be dictated by the suitability of substrate rather than prior design.

F.3.2 1992 Box Core Sampling

A total of six good cores were collected during the 1992 series. On the Bush Hill, two replicate cores were taken within 30 cm, 1 m and 10 m of a mixed mussel/tubeworm clump. These samples were sieved at 300 micrometers and hand sorted to higher taxonomic groups (Table G.1).

F.4 Discussion

Due to the small size of the sampler and the low abundance of fauna, only 82 specimens were collected. There were no obvious trends in living organisms, but dead shell material was more abundant immediately adjacent to the seep. The most detailed analysis of northern Gulf of Mexico continental slope macroinfauna is presented by Gallaway et al. (1988) who used a 0.05 m^2 ship-deployed box core to collect 324 samples (16.2 m2 of the seafloor) containing approximately 50,000 organisms in 1,1569 taxa. The average faunal density at 400-600 m was found to be approximately 3000 specimens per m^2. Due to the many differences between the studies and the grossly different sample sizes, statistical comparison is unwarranted, however, the data suggest that megafaunal populations in sediments near seep communities are lower than typical bottom values for the surrounding area. Although grossly different in the extent and range of sampling, the seep and slope results are qualitatively similar when rank abundance is compared. Excluding bryozoa, which were absent from the seep samples, both studies had the same overall ranking for the three most abundant higher taxa polychaetes, bivalves, and ostracods.

Two primary mechanisms can be proposed that lead to lowered infaunal abundance in sediments adjacent to seep sites. Chemically, toxicity of brine, sulfide, and hydrocarbon may be factor. Biologically, competition from and predatory cropping by the dense population of seep exploiting gastropods and crustaceans may limit these populations. The first possibility may be tested by chemical analysis and pore water bioassays. The latter might be amenable to exclusion cages experimentation.

The presence of an axiid shrimp in the samples is especially interesting on two points which hint that large populations may be present. First, these deep burrowing shrimp are only rarely taken in coring. Second, this is the second record at Bush Hill; a Pices-II sample contained a cast-off exoskeleton of the same species. The species is new to science and may represent a new genus (D. Felder, personal communication).

Appendix G

DIVE.SAMPLE	Bathymodiolus		Count/Grab Associated Fauna*										
	Count number	AFDW gm.	BNER	PROV	CATA	BUCC	ALVI	ORBI	LIMP	NEME	ISCH	CRAB	SIPU
GREEN CANYON 233, BRINE POOL													
2598.02	13	25.57	18	0	2	0	0	0	0	0	0	0	0
2598.03	2	13.96	18	0	0	1	3	12	0	0	0	0	0
2598.04	5	26.1	0	0	0	0	5	50	0	0	0	0	0
2598.05	8	37.727	5	0	0	0	7	27	0	0	0	0	0
2598.07	9	52.63	24	0	0	0	0	0	0	0	0	0	0
2598.08	14	32.82	0	0	0	0	7	0	0	0	0	0	0
2598.09	20	33.362	11	0	0	0	0	5	0	0	0	0	0
2598.10	11	34.06	21	1	1	1	1	0	0	0	0	0	0
2598.11	9	24.127	32	0	0	1	2	0	0	0	0	0	0
2598.12	8	29.02	0	0	0	0	0	0	0	0	0	0	0
3145.01	5	8.079	0	0	2	0	0	0	0	1	0	0	0
3145.02	9	13.835	39	0	0	0	2	0	0	1	0	0	0
3145.03	4	14.82	15	0	0	0	0	0	0	0	0	0	0
3145.04	5	24.71	7	0	0	0	0	0	0	0	0	0	0
3145.05	0	0	1	0	0	0	0	1	0	0	0	0	0
3145.06	12	67.86	11	0	0	0	9	0	0	0	0	0	0
3145.07	8	43.17	8	0	0	0	8	0	0	0	0	0	0
GREEN CANYON 272													
3137.01	0	0	0	0	0	0	0	0	0	0	0	0	0
3137.02	0	0	0	3	0	0	0	0	0	1	6	0	0
3137.03	0	0	10	30	0	0	0	0	0	0	0	0	0
3137.04	0	0	5	9	0	0	0	0	0	0	0	0	0
3137.05	27	47.369	0	0	0	0	0	0	0	0	0	0	0
3137.06	70	81.79	8	25	1	0	0	0	0	0	6	1	1
3137.11	8	26.38	0	2	0	0	0	0	0	0	1	0	0
3137.12	2	8.06	0	3	0	0	0	0	0	0	2	2	0
GREEN CANYON 184, BUSH HILL													
3139.01	14	16.319	15	23	6	1	0	0	0	0	0	0	0
3139.02	13	18.941	1	9	2	0	0	0	0	0	0	0	0
3139.03	26	23.967	30	41	11	2	3	0	0	0	0	0	0
3139.04	24	22.773	56	27	3	0	3	0	0	0	0	0	0
3139.05	9	14.114	4	0	3	0	0	0	0	0	0	0	0
3139.06	46	30.928	154	14	3	3	4	1	0	0	0	0	0
3139.07	50	44.236	149	96	24	4	10	1	0	1	0	0	0
3139.12	10	13.421	1	5	0	11	1	0	0	0	0	0	0
3269.01	18	43.067	4	5	2	0	8	0	0	0	0	0	0
3269.02	41	84.842	44	32	4	0	15	0	0	0	0	0	0

DIVE.SAMPLE	Bathymodiolus		Count/Grab Associated Fauna*										
	Count	AFDW	BNER	PROV	CATA	BUCC	ALVI	ORBI	LIMP	NEME	ISCH	CRAB	SIPU
	number	gm.											
3269.11	11	27.94	0	23	0	0	9	0	0	0	0	0	0
3269.12	3	4.14	1	32	0	0	1	0	0	0	0	0	0
3274.01	27	23.038	222	0	4	0	5	0	0	1	0	1	0
3274.02	31	13.263	7	2	1	0	1	0	0	0	0	0	0
3274.03	79	73.743	265	11	0	0	8	0	0	0	0	0	0
3274.12	22	34.364	138	24	4	0	13	0	0	0	0	0	0
GREEN CANYON 234													
3142.01	13	2.799	30	1	0	0	0	6	0	0	0	0	0
3142.02	94	29.439	23	0	0	0	2	0	0	0	0	0	0
3142.03	193	48.046	0	15	0	0	11	12	0	0	0	0	0
3142.04	76	25.457	85	0	0	0	0	17	0	0	0	0	0
3142.09	8	7.942	5	2	0	0	0	0	0	0	0	0	0
3142.10	24	28.91	65	6	0	0	5	0	0	0	0	1	0
3142.11	11	14.39	42	2	0	0	5	42	0	0	0	0	0
3142.12	11	13.787	277	1	0	0	4	80	0	0	0	0	0
3265.04	14	0.056	2	9	0	0	0	32	0	0	0	0	0
3265.06	10	0.094	94	0	0	0	1	200	0	0	0	0	0
3265.07	9	0.036	11	3	0	0	0	22	0	1	0	0	0
3265.08	7	9.159	24	2	0	0	0	42	0	0	0	0	0
3265.09	0	0	3	3	3	0	0	0	0	0	0	0	0
3265.10	26	7.094	37	4	1	0	0	0	0	0	0	0	1
3265.11	50	0.308	2	3	0	0	0	0	0	3	0	0	0
3265.12	14	6.92	7	39	5	0	0	0	0	0	0	0	0
3268.05	98	33.603	100	2	2	0	1	112	0	0	0	0	0
3268.06	100	28.971	24	1	5	0	1	0	5	0	0	0	0
3268.07	123	40.65	111	1	0	0	0	0	0	0	0	0	0
3268.08	58	21.433	5	0	0	0	0	40	0	0	0	0	0

AFDW Mussel Ash Free Dry Weight Based Upon Shell Lengths and Regression Derived Equation

* Taxa Abbreviations

BNER	Bathynerites naticoidea	ORBI	Orbinnid polychaete
PRO	Provanna sculpta	LIMP	Limpet
CATA	Cataegis meroglypta	NEME	Nemertine worm
BUCC	Buccina canatae	ISCH	Ischnochiton sp
ALVI	Alvinocaris stactophila	CRAB	cf. Trichopeltarion nobile
		SIPU	Sipunlculid worm

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Royalty Management Program** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.