

*[Paleoceanography and Paleoclimatology]*

Supporting Information for

**Planktonic foraminiferal δ18O values indicate precipitation variability in the southeastern South China Sea over the last 170 ka BP**

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**Introduction**

The supporting information including the data of δ13C, δ18O, Mg/Ca ratio, sea surface temperature (SST) and salinity (SSS) of core 251PC (Table S1).

Figures S1 show the chronology model for core 251PC, Figures S2 is the δ18O variation of the planktonic foraminifera Globigerinoides ruber (*G. ruber*) with different particle sizes.

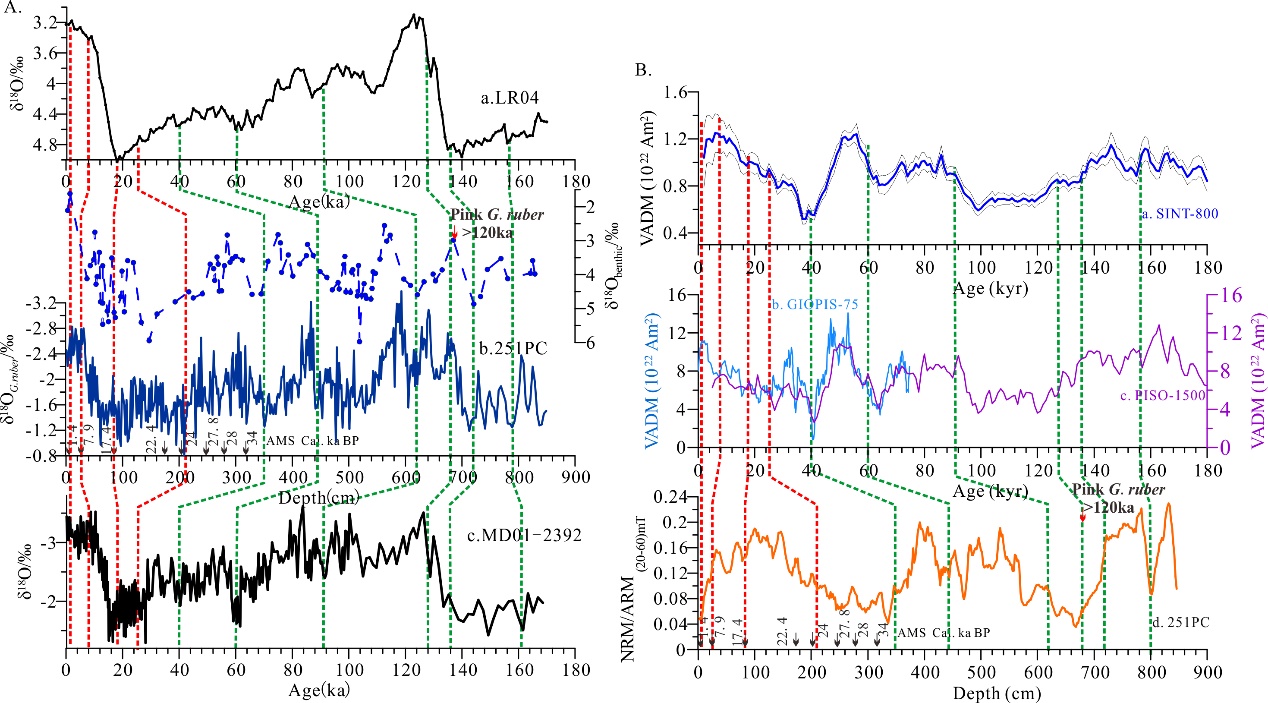
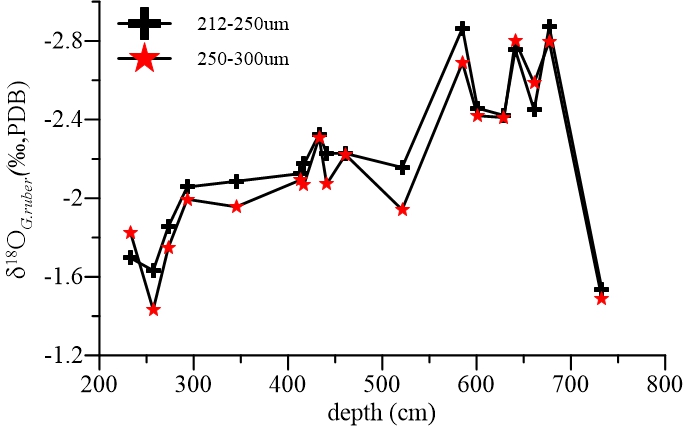


Figure S1. Chronology model for core 251PC. A. Correlation pattern of δ18O curves between core 251PC and cores MD01-2392 (Li et al., 2010) and LR04 (Lisiecki et al., 2005); B. Relative paleointensity (RPI) from core 251PC correlated to Sint-800 (Guyodo and Valet, 1996), PISO-1500 (Channell et al., 2009) and GlOPS-75 (Laj et al., 2004); dotted green lines represent the tie points, and the red lines are determined by the AMS 14C data. Black arrows with numbers indicate the AMS 14C age (cal. ka BP). The red arrow indicates the occurrence of pink *G. ruber*.



**Figure S2.** δ18O variation of the planktonic foraminifera Globigerinoides ruber (*G. ruber*) with different particle sizes.

**Table S1. :** The data ofδ13C, δ18O, Mg/Ca ratio, sea surface temperature (SST) and salinity (SSS) of core 251PC.

Column 1: Depth (cm)

Column 2: Age (ka BP); calendar years B.P. (B.P. = 1950)

Column 3:d18OG.ruber (‰, PDB); Globigerinoides ruber (white) 250-300 micron

Column 4: d18O benthic; Uvigerina 250-350 micron

Column 5: d18O G. menardii; Globorotalia menardii (white) 250-350 micron

Column 6: Mg/Ca (nmol/mol); Magnesium/Calcium ratio, Globigerinoides ruber (white) 250-300 micron

Column 7: SST (℃); Sea surface temperature from Mg/Ca

Column 8: SSS (spu); Sea surface salinity

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 1 | 1.39 | -2.46 |  |  | 3.80 | 25.64 | 33.26 |
| 3 | 1.94 | -2.21 | 2.11 | -0.28 |  |  |  |
| 5 | 2.48 | -2.40 |  |  |  |  |  |
| 7 | 3.03 | -2.66 | 1.62 | -0.06 |  |  |  |
| 9 | 3.57 | -2.25 |  |  | 5.07 | 28.19 | 34.85 |
| 11 | 4.12 | -2.83 |  | -0.55 |  |  |  |
| 13 | 4.66 | -2.38 |  |  | 4.37 | 26.93 | 33.94 |
| 15 | 5.20 | -2.47 |  | -0.85 |  |  |  |
| 17 | 5.75 | -2.79 |  |  | 4.60 | 27.81 | 33.36 |
| 19 | 6.29 | -2.66 |  | -0.43 |  |  |  |
| 21 | 6.84 | -2.12 |  |  | 4.32 | 26.65 | 34.27 |
| 23 | 7.38 | -2.61 |  | -0.27 |  |  |  |
| 25 | 7.93 | -2.26 |  |  | 4.38 | 26.88 | 34.00 |
| 27 | 8.24 | -2.79 |  | -0.19 |  |  |  |
| 29 | 8.55 | -2.55 |  |  | 4.22 | 26.80 | 33.23 |
| 31 | 8.86 | -2.80 |  | -0.07 |  |  |  |
| 33 | 9.17 | -2.62 |  |  | 4.11 | 26.74 | 32.97 |
| 35 | 9.49 | -2.20 |  | 0.01 |  |  |  |
| 37 | 9.80 | -1.98 | 4.12 |  | 4.28 | 26.50 | 34.18 |
| 39 | 10.11 | -2.08 |  | -0.34 |  |  |  |
| 41 | 10.42 | -1.63 |  |  | 4.32 | 26.39 | 34.78 |
| 43 | 10.73 | -2.23 | 3.73 | 0.30 |  |  |  |
| 45 | 11.05 | -1.43 |  |  | 4.23 | 26.08 | 34.95 |
| 47 | 11.36 | -2.34 |  | 0.58 |  |  |  |
| 49 | 11.67 | -1.68 | 3.56 |  | 4.04 | 25.88 | 34.12 |
| 51 | 11.98 | -2.19 | 2.75 | 0.65 |  |  |  |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 53 | 12.29 | -1.65 | 4.28 |  | 3.86 | 25.55 | 33.86 |
| 55 | 12.60 | -2.05 | 4.06 | 0.35 |  |  |  |
| 57 | 12.92 | -1.41 |  |  | 3.81 | 25.24 | 34.07 |
| 59 | 13.23 | -1.66 | 3.35 | 0.46 |  |  |  |
| 61 | 13.54 | -0.97 | 4.80 | 0.84 | 3.50 | 24.13 | 34.39 |
| 63 | 13.85 | -1.57 | 5.46 |  |  |  |  |
| 65 | 14.16 | -1.63 | 4.84 | 0.93 | 3.01 | 23.45 | 32.51 |
| 67 | 14.48 | -1.29 | 3.74 |  |  |  |  |
| 69 | 14.79 | -1.43 |  | 1.24 | 3.18 | 23.81 | 32.99 |
| 71 | 15.10 | -1.60 |  |  |  |  |  |
| 73 | 15.41 | -1.27 | 5.07 | 1.10 | 3.20 | 23.76 | 33.19 |
| 75 | 15.72 | -1.45 | 5.39 |  |  |  |  |
| 77 | 16.03 | -1.66 |  | 1.07 | 3.11 | 24.15 | 32.38 |
| 81 | 16.66 | -1.43 | 3.51 | 1.28 | 3.29 | 24.25 | 32.83 |
| 83 | 16.97 | -2.05 |  |  |  |  |  |
| 85 | 17.28 | -1.43 | 5.12 | 1.06 | 3.29 | 24.44 | 32.84 |
| 87 | 17.49 | -1.60 | 5.26 |  |  |  |  |
| 89 | 17.60 | -1.49 |  | 0.86 | 3.38 | 24.60 | 32.74 |
| 91 | 17.70 | -1.07 |  |  |  |  |  |
| 93 | 17.81 | -1.65 |  | 0.92 | 3.28 | 24.42 | 32.27 |
| 95 | 17.91 | -1.07 |  |  |  |  |  |
| 97 | 18.02 | -0.95 | 4.65 | 1.06 | 3.11 | 23.38 | 33.32 |
| 99 | 18.13 | -1.85 | 3.90 |  |  |  |  |
| 101 | 18.23 | -1.71 |  | 0.97 | 3.20 | 24.36 | 32.08 |
| 103 | 18.34 | -1.59 | 5.09 |  |  |  |  |
| 105 | 18.44 | -1.13 |  | 0.85 | 3.02 | 23.22 | 32.82 |
| 107 | 18.55 | -1.68 |  |  |  |  |  |
| 109 | 18.65 | -1.02 | 3.59 | 1.16 | 3.19 | 23.67 | 33.25 |
| 111 | 18.76 | -1.08 |  |  |  |  |  |
| 113 | 18.87 | -1.27 |  | 0.54 |  |  |  |
| 115 | 18.97 | -1.98 |  |  |  |  |  |
| 117 | 19.08 | -1.25 |  | 1.02 | 3.06 | 23.44 | 32.60 |
| 119 | 19.18 | -2.00 | 3.65 |  |  |  |  |
| 121 | 19.29 | -2.03 |  | -0.16 | 4.00 | 26.63 | 32.35 |
| 123 | 19.40 | -1.90 |  |  |  |  |  |
| 125 | 19.50 | -1.39 |  | 0.89 | 3.07 | 23.73 | 32.44 |
| 127 | 19.61 | -1.74 |  |  |  |  |  |
| 129 | 19.71 | -1.46 |  | 0.93 | 2.87 | 23.05 | 31.95 |
| 131 | 19.82 | -2.00 |  |  |  |  |  |
| 133 | 19.92 | -1.24 | 5.41 | 0.96 | 3.06 | 23.53 | 32.66 |
| 135 | 20.03 | -1.97 |  |  |  |  |  |
| 137 | 20.14 | -1.67 |  | 0.97 | 3.75 | 25.72 | 32.71 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 139 | 20.24 | -1.91 |  |  |  |  |  |
| 141 | 20.35 | -1.35 | 5.94 | 0.86 | 3.07 | 23.74 | 32.50 |
| 143 | 20.45 | -1.50 |  |  |  |  |  |
| 145 | 20.56 | -1.33 |  | 0.20 | 3.51 | 24.81 | 33.03 |
| 147 | 20.67 | -1.86 |  |  |  |  |  |
| 149 | 20.77 | -1.42 |  | 0.59 | 3.05 | 23.64 | 32.29 |
| 151 | 20.88 | -1.97 |  |  |  |  |  |
| 153 | 20.98 | -1.51 |  | 0.54 | 3.71 | 25.51 | 32.94 |
| 155 | 21.09 |  |  |  |  |  |  |
| 157 | 21.20 | -1.66 |  | 0.73 | 2.99 | 23.72 | 31.76 |
| 159 | 21.30 | -2.05 |  |  |  |  |  |
| 161 | 21.41 | -1.24 | 5.16 | 0.67 | 2.98 | 23.30 | 32.46 |
| 163 | 21.51 | -1.88 |  |  |  |  |  |
| 165 | 21.62 | -1.60 |  | 0.46 | 3.33 | 24.69 | 32.28 |
| 167 | 21.72 | -1.94 |  |  |  |  |  |
| 169 | 21.83 | -1.18 |  | 1.03 | 3.25 | 24.07 | 32.90 |
| 171 | 21.94 | -1.94 |  |  |  |  |  |
| 173 | 22.04 | -1.35 |  | 0.91 | 3.16 | 23.91 | 32.45 |
| 175 | 22.15 | -1.32 |  |  |  |  |  |
| 177 | 22.25 | -1.58 |  | 0.48 | 3.02 | 23.73 | 31.83 |
| 179 | 22.36 | -1.49 |  |  |  |  |  |
| 181 | 22.47 | -1.14 |  | 0.63 | 2.97 | 23.17 | 32.55 |
| 183 | 22.57 | -1.33 |  |  |  |  |  |
| 185 | 22.68 | -1.34 |  | 0.54 | 3.34 | 24.54 | 32.72 |
| 187 | 22.78 | -1.50 |  |  |  |  |  |
| 189 | 22.89 | -1.44 |  | 0.69 | 3.16 | 24.09 | 32.28 |
| 191 | 22.99 | -1.64 |  |  |  |  |  |
| 193 | 23.10 | -1.64 | 4.80 | 0.49 | 3.04 | 23.89 | 31.74 |
| 195 | 23.21 | -0.97 |  |  |  |  |  |
| 197 | 23.31 | -1.74 |  | 0.60 | 3.04 | 23.96 | 31.54 |
| 199 | 23.42 | -1.58 |  |  |  |  |  |
| 201 | 23.52 | -1.68 |  | 0.02 | 3.10 | 24.07 | 31.72 |
| 203 | 23.63 | -1.66 |  |  |  |  |  |
| 205 | 23.74 | -1.16 |  | 0.08 | 3.09 | 23.60 | 32.65 |
| 207 | 23.84 | -1.92 |  |  |  |  |  |
| 209 | 23.95 | -0.80 |  | 0.59 | 3.37 | 24.05 | 33.65 |
| 211 | 24.10 | -1.36 |  |  |  |  |  |
| 213 | 24.30 | -1.41 |  | 0.58 | 3.29 | 24.40 | 32.48 |
| 215 | 24.50 | -1.65 |  |  |  |  |  |
| 217 | 24.70 | -1.59 | 4.51 | 0.57 | 3.26 | 24.49 | 32.14 |
| 219 | 24.90 | -1.62 |  |  |  |  |  |
| 221 | 25.10 | -1.61 |  | 0.53 | 3.20 | 24.20 | 31.98 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 223 | 25.30 | -2.07 |  |  |  |  |  |
| 225 | 25.50 | -1.90 | 4.69 | -0.82 | 3.04 | 24.06 | 31.32 |
| 227 | 25.70 | -2.23 |  |  |  |  |  |
| 229 | 25.90 | -1.08 |  | 0.53 | 3.34 | 24.17 | 33.21 |
| 231 | 26.10 | -1.83 |  |  |  |  |  |
| 233 | 26.30 | -1.57 |  | 0.36 | 3.17 | 24.13 | 32.13 |
| 235 | 26.50 | -2.33 |  |  |  |  |  |
| 237 | 26.70 | -1.58 |  | 0.25 | 3.51 | 25.08 | 32.59 |
| 239 | 26.90 | -2.65 |  |  |  |  |  |
| 241 | 27.10 | -1.50 | 4.56 |  |  |  |  |
| 243 | 27.30 | -1.84 |  | 0.76 | 3.26 | 24.26 | 31.67 |
| 245 | 27.50 | -1.88 |  |  |  |  |  |
| 247 | 27.70 | -1.63 |  | 0.76 | 3.10 | 24.15 | 32.09 |
| 249 | 27.90 | -1.64 |  |  |  |  |  |
| 251 | 28.10 | -1.52 |  |  | 3.33 | 24.60 | 32.57 |
| 253 | 28.30 | -1.46 |  |  |  |  |  |
| 255 | 28.50 | -2.11 | 3.69 | 0.67 | 3.43 | 24.73 | 31.35 |
| 257 | 28.70 | -1.87 |  |  |  |  |  |
| 259 | 28.90 | -1.44 |  | 0.23 | 3.37 | 24.89 | 32.95 |
| 261 | 29.10 | -2.45 | 3.83 |  |  |  |  |
| 263 | 29.30 | -2.03 | 4.17 | 0.71 | 3.19 | 24.88 | 31.66 |
| 265 | 29.50 | -2.05 |  |  |  |  |  |
| 267 | 29.70 | -1.77 | 3.48 | 0.75 | 3.45 | 25.19 | 32.42 |
| 269 | 29.90 | -1.86 | 3.69 |  |  |  |  |
| 271 | 30.10 | -1.44 | 4.48 | 0.48 | 3.24 | 24.53 | 32.90 |
| 273 | 30.30 | -1.68 |  |  |  |  |  |
| 275 | 30.50 | -1.77 |  | 0.29 | 3.41 | 24.78 | 32.29 |
| 277 | 30.70 | -1.76 |  |  |  |  |  |
| 279 | 30.90 | -1.92 | 4.48 | 0.41 | 3.04 | 23.74 | 31.51 |
| 281 | 31.10 | -1.98 | 3.74 |  |  |  |  |
| 283 | 31.30 | -2.16 |  | 0.39 | 3.44 | 25.08 | 31.60 |
| 285 | 31.50 | -1.93 |  |  |  |  |  |
| 287 | 31.70 | -2.11 |  | 0.28 | 3.22 | 24.44 | 31.46 |
| 289 | 31.90 | -1.78 | 2.83 |  |  |  |  |
| 291 | 32.10 | -1.44 | 3.64 | 0.22 | 3.43 | 24.86 | 33.16 |
| 293 | 32.30 | -2.22 |  |  |  |  |  |
| 295 | 32.50 | -2.42 |  | -0.12 | 3.26 | 24.71 | 30.93 |
| 297 | 32.70 | -1.83 | 3.53 |  |  |  |  |
| 299 | 32.90 | -1.99 |  | 0.27 | 3.46 | 24.94 | 32.01 |
| 301 | 33.10 | -2.39 |  |  |  |  |  |
| 303 | 33.30 | -1.86 | 3.46 | 0.24 | 3.15 | 24.58 | 32.16 |
| 305 | 33.50 | -2.73 |  |  |  |  |  |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 307 | 33.70 | -1.56 |  | 0.04 | 3.42 | 25.69 | 33.34 |
| 309 | 33.90 | -2.42 |  |  |  |  |  |
| 311 | 34.10 | -1.41 |  | 0.58 | 3.42 | 25.40 | 33.54 |
| 313 | 34.30 | -1.86 |  |  |  |  |  |
| 315 | 34.50 | -1.65 |  | 0.48 | 3.39 | 24.85 | 32.74 |
| 317 | 34.70 | -2.52 |  |  |  |  |  |
| 319 | 34.90 | -1.30 |  |  | 3.25 | 25.08 | 33.60 |
| 321 | 35.17 | -1.45 | 3.57 | 0.55 | 3.66 | 25.14 | 33.29 |
| 323 | 35.50 | -1.67 |  |  |  |  |  |
| 325 | 35.83 | -2.20 |  | 0.44 | 3.47 | 25.33 | 31.71 |
| 327 | 36.17 | -2.01 |  |  |  |  |  |
| 329 | 36.50 | -2.02 | 4.58 | 0.54 | 3.30 | 24.70 | 31.86 |
| 331 | 36.83 | -1.81 |  |  |  |  |  |
| 333 | 37.17 | -1.71 |  | 0.45 | 3.15 | 24.04 | 32.29 |
| 335 | 37.50 | -1.74 |  |  |  |  |  |
| 337 | 37.83 | -1.61 |  | 0.76 | 3.26 | 24.32 | 32.66 |
| 339 | 38.17 | -1.80 |  |  |  |  |  |
| 341 | 38.50 | -1.64 |  | 0.53 | 3.17 | 23.92 | 32.44 |
| 343 | 38.83 | -2.06 |  |  |  |  |  |
| 345 | 39.17 | -1.69 | 4.57 | 0.61 | 3.11 | 23.84 | 32.32 |
| 347 | 39.50 | -1.80 |  |  |  |  |  |
| 349 | 39.83 | -1.41 |  | 0.67 | 3.02 | 23.30 | 32.76 |
| 351 | 40.15 | -1.26 |  |  |  |  |  |
| 353 | 40.46 | -1.35 |  | 0.49 | 3.26 | 23.90 | 33.24 |
| 355 | 40.77 | -1.49 |  |  |  |  |  |
| 357 | 41.08 | -1.71 | 3.61 | 0.34 | 3.00 | 23.48 | 32.31 |
| 359 | 41.38 | -1.77 |  |  |  |  |  |
| 361 | 41.69 | -1.46 |  | 0.53 | 3.27 | 24.07 | 33.18 |
| 363 | 42.00 | -1.61 |  |  |  |  |  |
| 365 | 42.31 | -1.47 |  | 0.36 | 2.95 | 23.09 | 32.75 |
| 367 | 42.62 | -1.45 |  |  |  |  |  |
| 369 | 42.92 | -1.61 |  | 0.12 | 3.01 | 23.42 | 32.61 |
| 371 | 43.23 | -1.46 |  |  |  |  |  |
| 373 | 43.54 | -1.72 |  | 0.21 | 3.09 | 23.69 | 32.47 |
| 375 | 43.85 | -1.77 | 2.82 |  |  |  |  |
| 377 | 44.15 | -1.71 |  | 0.25 | 3.22 | 24.03 | 32.63 |
| 379 | 44.46 | -1.80 | 3.06 |  |  |  |  |
| 381 | 44.77 | -2.04 | 3.93 | 0.06 | 3.34 | 24.68 | 32.22 |
| 383 | 45.08 | -2.04 |  |  |  |  |  |
| 385 | 45.38 | -2.20 |  | 0.04 | 3.24 | 24.54 | 31.80 |
| 387 | 45.69 | -1.64 |  |  |  |  |  |
| 389 | 46.00 | -1.44 |  | 0.37 | 3.74 | 25.20 | 33.78 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 391 | 46.73 | -1.94 |  |  |  |  |  |
| 393 | 47.45 | -1.67 | 3.42 | 0.48 | 3.13 | 23.71 | 32.59 |
| 395 | 48.18 | -1.97 |  |  |  |  |  |
| 397 | 48.91 | -2.00 |  | 0.43 | 3.57 | 25.25 | 32.60 |
| 399 | 49.64 | -1.63 |  |  |  |  |  |
| 401 | 50.22 | -2.03 | 4.04 | 0.39 | 3.28 | 24.41 | 32.28 |
| 403 | 50.67 | -2.08 |  |  |  |  |  |
| 405 | 51.11 | -1.94 |  | 0.42 | 3.27 | 24.32 | 32.49 |
| 407 | 51.56 | -1.94 |  |  |  |  |  |
| 409 | 52.00 | -1.90 |  | 0.13 | 3.36 | 24.53 | 32.60 |
| 411 | 52.44 | -1.72 |  |  |  |  |  |
| 413 | 52.89 | -2.00 | 3.68 | 0.44 | 3.45 | 24.90 | 32.54 |
| 415 | 53.33 | -1.93 |  |  |  |  |  |
| 417 | 53.78 | -2.84 |  | 0.42 | 3.26 | 25.12 | 30.75 |
| 419 | 54.22 | -2.24 |  |  |  |  |  |
| 421 | 54.67 | -2.22 |  | 0.28 | 3.32 | 24.84 | 31.96 |
| 423 | 55.11 | -2.03 |  |  |  |  |  |
| 425 | 55.56 | -2.62 | 3.44 | 0.07 | 3.48 | 25.60 | 31.35 |
| 427 | 56.00 | -2.38 | 3.11 |  |  |  |  |
| 429 | 56.44 | -2.72 |  | 0.14 | 3.44 | 25.57 | 31.03 |
| 431 | 56.89 | -2.14 |  |  |  |  |  |
| 433 | 57.33 | -3.22 |  | -0.11 | 3.44 | 26.14 | 30.12 |
| 435 | 57.78 | -2.15 |  |  |  |  |  |
| 437 | 58.22 | -2.80 | 3.44 | 0.41 | 3.43 | 25.73 | 30.83 |
| 439 | 58.67 | -1.86 |  |  |  |  |  |
| 441 | 59.11 | -1.54 |  | -0.11 | 3.43 | 24.60 | 33.14 |
| 443 | 59.56 | -1.56 |  |  |  |  |  |
| 445 | 60.00 | -1.61 |  | 0.21 | 3.48 | 24.75 | 33.02 |
| 447 | 60.34 | -1.70 |  |  |  |  |  |
| 449 | 60.69 | -2.12 | 3.91 | 0.28 | 3.27 | 24.63 | 31.81 |
| 451 | 61.03 | -1.65 |  |  |  |  |  |
| 453 | 61.37 | -1.39 |  | 0.26 | 3.28 | 24.00 | 33.15 |
| 455 | 61.71 | -1.92 |  |  |  |  |  |
| 457 | 62.06 | -1.96 |  | -0.12 | 3.22 | 24.40 | 32.10 |
| 459 | 62.40 | -2.16 |  |  |  |  |  |
| 461 | 62.74 | -1.95 | 4.08 | 0.03 | 3.32 | 24.63 | 32.22 |
| 463 | 63.09 | -2.15 |  |  |  |  |  |
| 465 | 63.43 | -1.95 |  | -0.01 | 3.22 | 24.37 | 32.10 |
| 467 | 63.77 | -2.18 |  |  |  |  |  |
| 469 | 64.11 | -1.71 |  | 0.20 | 3.45 | 24.77 | 32.83 |
| 471 | 64.46 | -1.98 | 4.45 |  |  |  |  |
| 473 | 64.80 | -1.92 |  | 0.03 | 3.50 | 25.01 | 32.50 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 475 | 65.14 | -1.93 |  |  |  |  |  |
| 477 | 65.49 | -1.02 |  | 0.36 | 3.39 | 24.01 | 34.04 |
| 479 | 65.83 | -2.50 |  |  |  |  |  |
| 481 | 66.30 | -1.44 | 4.24 | 0.29 | 3.48 | 24.58 | 33.39 |
| 483 | 66.90 | -2.26 | 4.43 |  |  |  |  |
| 485 | 67.50 | -1.86 |  | 0.08 | 3.49 | 24.90 | 32.73 |
| 487 | 68.10 | -1.91 |  |  |  |  |  |
| 489 | 68.70 | -1.24 |  | 0.30 | 3.31 | 23.86 | 33.73 |
| 491 | 69.30 | -1.64 | 3.71 |  |  |  |  |
| 493 | 69.90 | -1.59 | 3.46 | 0.33 | 3.59 | 24.88 | 33.49 |
| 495 | 70.50 | -1.57 | 4.51 |  |  |  |  |
| 497 | 71.10 | -2.00 |  | 0.49 | 3.19 | 24.08 | 32.47 |
| 499 | 71.70 | -1.78 |  |  |  |  |  |
| 501 | 72.13 | -1.22 |  | 0.19 | 3.57 | 24.35 | 34.43 |
| 503 | 72.40 | -1.83 | 4.52 |  |  |  |  |
| 505 | 72.67 | -1.88 | 3.92 | 0.20 | 3.11 | 23.62 | 32.66 |
| 507 | 72.93 | -1.72 | 3.86 |  |  |  |  |
| 509 | 73.20 | -2.45 |  | 0.24 | 3.27 | 24.58 | 31.87 |
| 511 | 73.47 | -1.60 |  |  |  |  |  |
| 513 | 73.73 | -1.56 |  | 0.25 | 3.30 | 23.89 | 33.60 |
| 515 | 74.00 | -1.62 | 4.62 |  |  |  |  |
| 517 | 74.27 | -1.65 | 3.73 | 0.16 | 4.00 | 25.71 | 34.32 |
| 519 | 74.53 | -1.72 | 5.98 |  |  |  |  |
| 521 | 74.80 | -1.84 |  | 0.30 | 3.36 | 24.27 | 33.26 |
| 523 | 75.07 | -1.90 | 4.61 |  |  |  |  |
| 525 | 75.33 | -1.55 |  | 0.11 | 3.28 | 23.73 | 33.66 |
| 527 | 75.60 | -1.55 | 4.27 |  |  |  |  |
| 529 | 75.87 | -1.48 | 4.61 | -0.22 | 3.28 | 23.75 | 33.86 |
| 531 | 76.13 | -1.91 | 4.70 |  |  |  |  |
| 533 | 76.40 | -1.60 |  | 0.05 | 2.94 | 22.70 | 33.12 |
| 535 | 76.67 | -1.66 |  |  |  |  |  |
| 537 | 76.93 | -1.62 |  | -0.11 |  |  |  |
| 539 | 77.20 | -1.75 | 4.72 |  |  |  |  |
| 541 | 77.47 | -1.76 | 4.41 | -0.20 | 4.59 | 27.05 | 34.82 |
| 543 | 77.73 | -2.13 | 3.92 |  |  |  |  |
| 545 | 78.00 | -1.64 |  | -0.30 | 3.12 | 23.38 | 33.38 |
| 547 | 78.27 | -2.11 | 3.96 |  |  |  |  |
| 549 | 78.53 | -2.03 |  | -0.75 | 3.49 | 24.76 | 33.10 |
| 551 | 78.80 | -2.07 |  |  |  |  |  |
| 553 | 79.07 | -1.91 |  | -0.86 | 3.43 | 24.58 | 33.27 |
| 555 | 79.33 | -2.36 | 3.54 |  |  |  |  |
| 557 | 79.60 | -2.01 |  | -0.91 | 4.01 | 26.01 | 33.73 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 559 | 79.87 | -2.46 |  |  |  |  |  |
| 561 | 80.13 | -2.30 |  | -0.09 | 3.81 | 25.77 | 32.97 |
| 563 | 80.40 | -2.36 | 2.56 |  |  |  |  |
| 565 | 80.67 | -2.35 |  | -0.48 | 3.78 | 25.84 | 32.89 |
| 567 | 80.93 | -2.56 | 3.02 |  |  |  |  |
| 569 | 81.20 | -2.59 |  | 0.03 | 3.74 | 25.95 | 32.43 |
| 571 | 81.47 | -2.49 |  |  |  |  |  |
| 573 | 81.73 | -2.57 | 2.84 | 0.38 | 3.31 | 24.85 | 31.96 |
| 575 | 82.00 | -2.64 |  |  |  |  |  |
| 577 | 82.27 | -2.57 |  | 0.41 | 3.50 | 25.33 | 32.22 |
| 579 | 82.53 | -2.81 |  |  |  |  |  |
| 581 | 82.80 | -1.88 |  | 0.02 | 3.12 | 23.63 | 33.00 |
| 583 | 83.07 | -2.80 |  |  |  |  |  |
| 585 | 83.33 | -3.18 |  | -0.19 | 3.64 | 26.13 | 31.24 |
| 587 | 83.60 | -2.90 |  |  |  |  |  |
| 589 | 83.87 | -3.18 |  | 0.18 | 3.90 | 26.78 | 31.50 |
| 591 | 84.13 | -2.72 |  |  |  |  |  |
| 593 | 84.40 | -3.38 |  | 0.38 | 4.02 | 27.27 | 31.27 |
| 595 | 84.67 | -2.39 |  |  |  |  |  |
| 597 | 84.93 | -2.59 | 4.13 | 0.40 | 4.02 | 26.54 | 32.71 |
| 599 | 85.20 | -2.77 |  |  |  |  |  |
| 601 | 85.47 | -2.21 |  | 0.53 | 3.97 | 26.12 | 33.27 |
| 603 | 85.73 | -2.39 |  |  |  |  |  |
| 605 | 86.00 | -1.56 |  | 0.74 | 4.04 | 25.65 | 34.43 |
| 607 | 86.80 | -1.93 |  |  |  |  |  |
| 609 | 87.60 | -2.22 | 4.32 | 0.24 | 3.58 | 25.28 | 32.67 |
| 611 | 88.40 | -2.22 |  |  |  |  |  |
| 613 | 89.20 | -2.05 |  | 0.41 | 3.53 | 24.99 | 32.93 |
| 615 | 90.00 | -2.46 |  |  |  |  |  |
| 617 | 90.80 | -1.90 |  | 0.32 | 3.87 | 25.67 | 33.64 |
| 619 | 91.60 | -2.43 |  |  |  |  |  |
| 621 | 92.40 | -1.92 | 4.59 | 0.13 | 3.70 | 25.34 | 33.42 |
| 623 | 93.20 | -2.26 |  |  |  |  |  |
| 625 | 94.00 | -2.08 |  | -0.44 | 3.81 | 25.66 | 33.24 |
| 627 | 94.80 | -2.48 |  |  |  |  |  |
| 629 | 95.60 | -2.82 |  | 0.17 | 3.26 | 24.93 | 31.44 |
| 631 | 96.40 | -2.47 |  |  |  |  |  |
| 633 | 97.20 | -2.64 | 4.21 | 0.21 | 3.64 | 25.63 | 32.33 |
| 635 | 98.00 | -2.62 |  |  |  |  |  |
| 637 | 98.80 | -2.34 |  | 0.16 | 3.60 | 25.27 | 32.90 |
| 639 | 99.60 | -2.94 |  |  |  |  |  |
| 641 | 100.40 | -3.09 |  | -0.66 | 4.21 | 27.45 | 32.23 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 643 | 101.20 | -2.99 |  |  |  |  |  |
| 645 | 102.00 | -2.50 |  | -0.54 | 4.16 | 26.77 | 33.11 |
| 647 | 102.80 | -2.22 |  |  |  |  |  |
| 649 | 103.60 | -2.17 | 3.98 | 0.06 | 3.67 | 25.34 | 33.07 |
| 651 | 104.60 | -2.01 |  |  |  |  |  |
| 653 | 105.80 | -2.01 | 4.18 | 0.24 | 3.95 | 25.99 | 33.57 |
| 655 | 107.00 | -2.16 |  |  |  |  |  |
| 657 | 108.20 | -2.05 |  | 0.04 | 3.56 | 25.12 | 32.97 |
| 659 | 109.40 | -2.01 |  |  |  |  |  |
| 661 | 110.40 | -2.01 |  | 0.16 | 3.75 | 25.58 | 33.24 |
| 663 | 111.20 | -2.21 |  |  |  |  |  |
| 665 | 112.00 | -2.12 | 3.86 | -0.15 | 4.14 | 26.57 | 33.52 |
| 667 | 112.80 | -2.12 |  |  |  |  |  |
| 669 | 113.60 | -2.10 |  | -0.14 | 3.96 | 26.02 | 33.44 |
| 671 | 114.40 | -2.38 |  |  |  |  |  |
| 673 | 115.20 | -2.29 |  | -0.05 | 4.35 | 27.02 | 33.67 |
| 675 | 116.00 | -2.72 |  |  |  |  |  |
| 677 | 116.80 | -2.38 |  | -0.37 | 4.60 | 27.65 | 33.95 |
| 679 | 117.60 | -2.37 |  |  |  |  |  |
| 681 | 128.00 | -2.64 |  | -0.50 | 4.87 | 28.44 | 33.36 |
| 683 | 128.41 | -2.45 |  |  |  |  |  |
| 685 | 128.82 | -2.56 | 2.99 | -0.24 | 4.74 | 27.94 | 33.05 |
| 689 | 129.64 | -2.35 |  | 0.56 | 4.47 | 27.21 | 32.88 |
| 693 | 130.46 | -1.62 |  | 0.56 | 4.25 | 26.83 | 34.10 |
| 697 | 131.28 | -2.19 |  | 0.67 | 4.11 | 26.44 | 32.45 |
| 701 | 132.10 | -1.44 |  | 1.14 | 3.61 | 25.09 | 33.22 |
| 705 | 132.92 | -1.55 |  | 1.10 | 3.55 | 24.65 | 32.58 |
| 709 | 133.74 | -1.41 |  | 1.27 | 3.22 | 23.80 | 32.38 |
| 713 | 134.56 | -1.19 |  | 1.17 | 3.07 | 24.36 | 33.08 |
| 717 | 135.38 | -1.35 |  | 1.36 | 3.35 | 24.83 | 32.90 |
| 721 | 136.29 | -1.40 | 4.87 | 1.28 | 3.50 | 24.45 | 32.62 |
| 725 | 137.43 | -1.40 |  | 0.79 | 3.16 | 24.78 | 32.78 |
| 729 | 138.57 | -2.13 |  | 1.35 | 3.26 | 24.69 | 31.15 |
| 733 | 139.71 | -1.62 | 4.65 | 1.04 | 3.29 | 24.57 | 32.26 |
| 737 | 140.86 | -1.44 |  | 0.61 | 3.35 | 24.46 | 32.71 |
| 741 | 142.00 | -1.23 |  | 0.92 | 3.41 | 24.63 | 33.34 |
| 745 | 143.14 | -1.66 | 3.85 | 0.93 | 3.39 | 24.35 | 32.32 |
| 749 | 144.29 | -1.81 |  | 0.85 | 3.09 | 23.89 | 31.86 |
| 753 | 145.43 | -1.59 |  | 1.23 | 3.12 | 23.85 | 32.36 |
| 757 | 146.57 | -1.56 |  | 0.63 | 3.14 | 23.85 | 32.44 |
| 761 | 147.71 | -1.32 |  | 1.18 | 3.21 | 23.76 | 32.93 |
| 765 | 148.86 | -1.83 |  | 1.39 | 3.03 | 24.35 | 32.12 |
| depth | Age | δ18O*G,ruber* | δ18O*Benthic* | δ18O *G. menardii;* | mg/ca | SST | SSS |
| 769 | 150.00 | -1.89 | 3.53 | 0.94 | 3.29 | 24.12 | 31.99 |
| 773 | 151.14 | -1.78 |  | 0.89 | 3.06 | 23.69 | 32.13 |
| 777 | 152.29 | -1.66 |  | 1.11 | 3.07 | 23.63 | 32.38 |
| 781 | 153.43 | -1.31 | 4.12 | 1.20 | 3.16 | 23.73 | 33.20 |
| 785 | 154.57 | -1.30 |  | 0.97 | 3.22 | 23.55 | 33.08 |
| 789 | 155.71 | -1.25 |  | 1.41 | 3.12 | 23.36 | 33.06 |
| 793 | 156.83 | -1.34 |  | 1.50 | 3.04 | 23.92 | 33.08 |
| 797 | 157.93 | -1.56 |  | 1.36 | 3.23 | 24.32 | 32.86 |
| 801 | 159.03 | -1.82 |  | 1.32 | 3.30 | 24.87 | 32.56 |
| 805 | 160.13 | -2.38 |  | 1.23 | 3.31 | 24.65 | 31.24 |
| 809 | 161.23 | -2.25 |  | 1.37 | 3.13 | 24.08 | 31.31 |
| 813 | 162.33 | -1.63 |  | 0.79 | 3.17 | 23.94 | 32.72 |
| 817 | 163.43 | -1.49 |  | 0.51 | 3.26 | 24.20 | 33.20 |
| 821 | 164.53 | -1.66 | 3.96 | 0.66 | 3.32 | 24.58 | 33.06 |
| 825 | 165.63 | -2.20 | 3.59 | 0.60 | 3.31 | 24.49 | 31.92 |
| 829 | 166.73 | -1.96 | 3.98 | 0.87 | 3.29 | 23.95 | 32.29 |
| 833 | 167.83 | -1.46 |  | 0.85 | 3.17 | 23.86 | 33.37 |
| 837 | 168.93 | -1.28 |  | 0.39 | 3.37 | 23.89 | 33.86 |
| 841 | 170.03 | -1.29 |  | 0.72 | 3.33 | 23.76 | 33.83 |
| 845 | 171.13 | -1.46 |  | 0.58 | 3.22 | 23.68 | 33.35 |
| 849 | 172.23 | -1.51 |  | 0.62 | 3.16 | 23.65 | 33.14 |