

Table 1. Radiocarbon age dates for cores 01A-GC (Kim et al., 2016), 05JPC, and 08TC/JPC (Darby et al., 2009).

| Core | Depth (cm) | ¹⁴ C age (yr BP) | CALIB7.0 (yr BP) | ΔR | Material |
|----------------|------------|-----------------------------|------------------|-----|----------|
| ARA02B | | | | | |
| 01A-GC | 107.5 | 3740±30 | 3058 | 500 | Bivalve |
| 01A-GC | 159.5 | 4370±30 | 3837 | 500 | Bivalve |
| 01A-GC | 204.5 | 4860±30 | 4493 | 500 | Bivalve |
| 01A-GC | 241.5 | 5180±30 | 4899 | 500 | Bivalve |
| 01A-GC | 347.5 | 6110±30 | 5998 | 500 | Bivalve |
| 01A-GC | 456.5 | 7690±30 | 7649 | 500 | Bivalve |
| 01A-GC | 509.5 | 8670±30 | 8648 | 500 | Bivalve |
| HLY0501 | | | | | |
| 05JPC | 100 | 1930±45 | 1477 | 0 | Bivalve |
| 05JPC | 547 | 4465±40 | 4655 | 0 | Bivalve |
| 05JPC | 632.5 | 4820±70 | 5109 | 0 | Bivalve |
| 05JPC | 752.5 | 5220±40 | 5583 | 0 | Bivalve |
| 05JPC | 863 | 5885±40 | 6303 | 0 | Bivalve |
| 05JPC | 943.5 | 6395±45 | 6870 | 0 | Bivalve |
| HLY0501 | | | | | |
| 08TC | 185 | 4591±42 | 4137 | 500 | Bivalve |
| 08JPC | 102 | 3216±37 | 2416 | 500 | Bivalve |
| 08JPC | 181 | 4590±30 | 4135 | 500 | Bivalve |
| 08JPC | 378 | 5210±30 | 4931 | 500 | Bivalve |
| 08JPC | 561 | 5309±79 | 5094 | 500 | Bivalve |
| 08JPC | 840 | 5995±35 | 5880 | 500 | Bivalve |
| 08JPC | 902 | 6110±40 | 6003 | 500 | Bivalve |
| 08JPC | 1166 | 7275±35 | 7304 | 500 | Bivalve |
| 08JPC | 1204 | 7415±35 | 7428 | 500 | Bivalve |

Table 2-1. GDGTs-based proxies of the core ARA02B 01A-GC.

| Depth (cm) | Age (ka) | Iso GDGT ($\mu\text{g/g}$) | Br GDGT ($\mu\text{g/g}$) | BIT | MI | Cald/Cren | TEX ₈₆ | TEX ₈₆ ^L | CBT | MBT' |
|---------------|-------------|---------------------------------|--------------------------------|------|------|-----------|-------------------|--------------------------------|-------|------|
| 0 | 0 | 20.29 | 0.68 | 0.03 | 0.02 | 0.45 | 0.54 | -0.63 | -0.09 | 0.28 |
| 5 | 0.14 | 17.24 | 0.55 | 0.03 | 0.03 | 0.67 | 0.49 | -0.65 | 0 | 0.28 |
| 10 | 0.28 | 27.86 | 0.64 | 0.02 | 0.03 | 0.75 | 0.46 | -0.69 | 0 | 0.26 |
| 15 | 0.43 | 28.82 | 0.66 | 0.02 | 0.03 | 0.85 | 0.48 | -0.62 | -0.02 | 0.29 |
| 20 | 0.57 | 26.94 | 0.81 | 0.03 | 0.03 | 0.74 | 0.51 | -0.65 | -0.01 | 0.25 |
| 25 | 0.71 | 29.21 | 0.95 | 0.03 | 0.04 | 0.87 | 0.47 | -0.64 | -0.04 | 0.26 |
| 30 | 0.85 | 27.62 | 0.95 | 0.04 | 0.04 | 0.88 | 0.48 | -0.64 | -0.05 | 0.26 |
| 35 | 1 | 23.44 | 0.7 | 0.03 | 0.02 | 0.77 | 0.64 | -0.53 | -0.04 | 0.29 |
| 40 | 1.14 | 25.68 | 0.82 | 0.04 | 0.04 | 1.08 | 0.49 | -0.67 | -0.02 | 0.27 |
| 45 | 1.28 | 18.52 | 0.59 | 0.04 | 0.04 | 1 | 0.47 | -0.69 | -0.02 | 0.27 |
| 50 | 1.42 | 26.86 | 1.09 | 0.04 | 0.03 | 0.89 | 0.43 | -0.77 | 0.01 | 0.3 |
| 55 | 1.56 | 24.17 | 0.84 | 0.04 | 0.04 | 1.12 | 0.52 | -0.6 | -0.07 | 0.3 |
| 60 | 1.71 | 21.7 | 0.64 | 0.03 | 0.03 | 0.84 | 0.48 | -0.65 | 0.02 | 0.31 |
| 65 | 1.85 | 23.64 | 0.7 | 0.03 | 0.03 | 0.72 | 0.46 | -0.65 | 0.03 | 0.3 |
| 70 | 1.99 | 24.41 | 1 | 0.04 | 0.03 | 0.98 | 0.45 | -0.7 | -0.01 | 0.33 |
| 75 | 2.13 | 23.59 | 0.67 | 0.03 | 0.03 | 0.81 | 0.49 | -0.58 | 0.03 | 0.33 |
| 80 | 2.27 | 23.3 | 0.72 | 0.03 | 0.03 | 0.63 | 0.41 | -0.76 | 0.05 | 0.3 |
| 85 | 2.42 | 22.13 | 0.63 | 0.03 | 0.03 | 0.77 | 0.41 | -0.71 | 0.06 | 0.34 |
| 90 | 2.56 | 19.79 | 0.69 | 0.03 | 0.03 | 0.82 | 0.49 | -0.61 | 0.03 | 0.3 |
| 95 | 2.7 | 23.44 | 0.73 | 0.03 | 0.03 | 0.93 | 0.49 | -0.69 | -0.01 | 0.32 |
| 100 | 2.84 | 16.45 | 0.53 | 0.03 | 0.03 | 0.77 | 0.46 | -0.69 | 0.07 | 0.3 |
| 105 | 2.99 | 17.53 | 0.57 | 0.03 | 0.04 | 0.98 | 0.46 | -0.66 | 0 | 0.31 |
| 110 | 3.09 | 14.84 | 0.45 | 0.03 | 0.03 | 0.81 | 0.47 | -0.64 | -0.05 | 0.35 |
| 115 | 3.17 | 21.66 | 0.67 | 0.03 | 0.03 | 0.82 | 0.46 | -0.73 | 0 | 0.34 |
| 120 | 3.25 | 18.55 | 0.56 | 0.03 | 0.03 | 0.86 | 0.51 | -0.6 | 0.06 | 0.33 |
| 125 | 3.32 | 21.61 | 0.66 | 0.03 | 0.03 | 0.66 | 0.52 | -0.61 | 0.08 | 0.33 |
| 130 | 3.4 | 22.94 | 0.68 | 0.03 | 0.03 | 0.8 | 0.49 | -0.64 | 0.01 | 0.32 |
| 135 | 3.47 | 24.67 | 0.81 | 0.03 | 0.03 | 0.82 | 0.46 | -0.67 | 0 | 0.31 |
| 140 | 3.55 | 22.38 | 0.82 | 0.04 | 0.03 | 0.88 | 0.46 | -0.67 | -0.01 | 0.33 |
| 145 | 3.62 | 18.28 | 0.53 | 0.03 | 0.03 | 0.79 | 0.48 | -0.63 | -0.01 | 0.31 |
| 150 | 3.7 | 20.24 | 0.71 | 0.04 | 0.03 | 0.81 | 0.51 | -0.62 | 0.07 | 0.3 |
| 155 | 3.77 | 20.61 | 0.69 | 0.03 | 0.03 | 0.76 | 0.49 | -0.62 | 0.04 | 0.35 |
| 160 | 3.85 | 21.08 | 0.72 | 0.03 | 0.03 | 0.75 | 0.5 | -0.69 | 0.06 | 0.31 |
| 165 | 3.92 | 18.98 | 0.77 | 0.04 | 0.03 | 0.75 | 0.48 | -0.67 | 0.06 | 0.31 |
| 170 | 3.99 | 19.83 | 0.72 | 0.04 | 0.03 | 0.9 | 0.51 | -0.63 | 0.05 | 0.32 |
| 175 | 4.06 | 19.8 | 0.73 | 0.04 | 0.04 | 0.89 | 0.41 | -0.73 | 0.03 | 0.32 |
| 180 | 4.13 | 13.68 | 0.59 | 0.04 | 0.04 | 0.82 | 0.4 | -0.72 | 0.07 | 0.33 |
| 185 | 4.2 | 15.66 | 0.59 | 0.04 | 0.03 | 0.75 | 0.47 | -0.67 | 0.05 | 0.33 |
| 190 | 4.28 | 23.15 | 0.89 | 0.04 | 0.04 | 0.87 | 0.47 | -0.64 | 0.06 | 0.34 |
| 195 | 4.35 | 16.43 | 0.68 | 0.04 | 0.04 | 0.86 | 0.45 | -0.7 | 0.06 | 0.33 |

| | | | | | | | | | | |
|-----|------|-------|------|------|------|------|------|-------|------|------|
| 200 | 4.42 | 21.05 | 0.84 | 0.04 | 0.04 | 0.88 | 0.46 | -0.65 | 0.08 | 0.31 |
| 205 | 4.49 | 22.08 | 0.9 | 0.04 | 0.04 | 1 | 0.43 | -0.66 | 0.02 | 0.32 |
| 210 | 4.54 | 20.02 | 0.92 | 0.05 | 0.04 | 0.83 | 0.45 | -0.69 | 0.05 | 0.32 |
| 215 | 4.6 | 12.06 | 0.55 | 0.05 | 0.04 | 0.87 | 0.45 | -0.69 | 0.04 | 0.32 |
| 221 | 4.65 | 18.54 | 0.73 | 0.04 | 0.03 | 0.82 | 0.48 | -0.64 | 0.07 | 0.31 |
| 225 | 4.71 | 10.84 | 0.56 | 0.05 | 0.04 | 0.82 | 0.43 | -0.74 | 0.11 | 0.34 |
| 230 | 4.76 | 15.08 | 0.67 | 0.04 | 0.03 | 0.68 | 0.46 | -0.66 | 0.12 | 0.33 |
| 235 | 4.82 | 24.69 | 0.98 | 0.04 | 0.03 | 0.64 | 0.47 | -0.67 | 0.1 | 0.29 |
| 240 | 4.88 | 20.59 | 0.89 | 0.04 | 0.03 | 0.61 | 0.47 | -0.68 | 0.08 | 0.31 |
| 245 | 4.93 | 15.55 | 0.7 | 0.04 | 0.03 | 0.76 | 0.47 | -0.67 | 0.08 | 0.32 |
| 250 | 4.98 | 26.81 | 1.04 | 0.04 | 0.04 | 0.77 | 0.47 | -0.65 | 0.07 | 0.32 |
| 255 | 5.03 | 28.03 | 1.1 | 0.04 | 0.03 | 0.68 | 0.48 | -0.65 | 0.06 | 0.32 |
| 260 | 5.08 | 27.79 | 1.33 | 0.04 | 0.03 | 0.66 | 0.5 | -0.63 | 0.1 | 0.33 |
| 265 | 5.14 | 22 | 0.8 | 0.04 | 0.04 | 0.9 | 0.44 | -0.67 | 0.12 | 0.29 |
| 270 | 5.19 | 24.04 | 0.88 | 0.04 | 0.04 | 0.94 | 0.44 | -0.67 | 0.08 | 0.31 |
| 275 | 5.24 | 23.64 | 0.95 | 0.04 | 0.04 | 0.97 | 0.44 | -0.63 | 0.06 | 0.31 |
| 280 | 5.29 | 4.06 | 0.16 | 0.04 | 0.04 | 0.8 | 0.43 | -0.69 | 0.08 | 0.31 |
| 285 | 5.34 | 31.61 | 1.22 | 0.04 | 0.04 | 0.9 | 0.48 | -0.66 | 0.03 | 0.33 |
| 290 | 5.39 | 22.45 | 1.14 | 0.05 | 0.04 | 0.88 | 0.45 | -0.66 | 0.08 | 0.31 |
| 295 | 5.45 | 21.93 | 1.09 | 0.05 | 0.04 | 0.89 | 0.45 | -0.65 | 0.07 | 0.31 |
| 300 | 5.5 | 27.67 | 1.27 | 0.05 | 0.04 | 0.87 | 0.43 | -0.66 | 0.1 | 0.3 |
| 305 | 5.55 | 20.69 | 0.93 | 0.05 | 0.04 | 0.99 | 0.47 | -0.64 | 0.09 | 0.3 |
| 310 | 5.6 | 20.52 | 0.95 | 0.05 | 0.04 | 0.95 | 0.44 | -0.67 | 0.1 | 0.33 |
| 315 | 5.65 | 20.45 | 1.08 | 0.06 | 0.04 | 0.98 | 0.49 | -0.62 | 0.05 | 0.32 |
| 320 | 5.71 | 11.53 | 0.61 | 0.06 | 0.05 | 1 | 0.36 | -0.75 | 0.03 | 0.31 |
| 325 | 5.76 | 22.24 | 1.05 | 0.05 | 0.04 | 0.76 | 0.46 | -0.67 | 0.08 | 0.33 |
| 330 | 5.81 | 26.02 | 1.01 | 0.04 | 0.03 | 0.83 | 0.46 | -0.67 | 0.11 | 0.33 |
| 335 | 5.86 | 20.98 | 1.08 | 0.05 | 0.04 | 0.91 | 0.43 | -0.7 | 0.06 | 0.32 |
| 340 | 5.91 | 17.24 | 0.99 | 0.06 | 0.04 | 0.87 | 0.45 | -0.65 | 0.13 | 0.33 |
| 345 | 5.96 | 18.74 | 1.05 | 0.06 | 0.04 | 0.81 | 0.46 | -0.63 | 0.12 | 0.31 |
| 350 | 6.03 | 13.13 | 0.51 | 0.04 | 0.05 | 0.99 | 0.39 | -0.7 | 0.11 | 0.31 |
| 355 | 6.1 | 18.68 | 1.01 | 0.06 | 0.04 | 0.87 | 0.45 | -0.67 | 0.09 | 0.32 |
| 360 | 6.18 | 19.63 | 0.99 | 0.05 | 0.04 | 0.9 | 0.4 | -0.67 | 0.08 | 0.32 |
| 365 | 6.26 | 20.14 | 0.96 | 0.05 | 0.04 | 0.87 | 0.45 | -0.66 | 0.09 | 0.32 |
| 370 | 6.33 | 19.95 | 0.99 | 0.05 | 0.04 | 0.72 | 0.47 | -0.65 | 0.14 | 0.33 |
| 375 | 6.41 | 16 | 0.99 | 0.06 | 0.04 | 0.7 | 0.45 | -0.67 | 0.12 | 0.34 |
| 380 | 6.48 | 12.79 | 0.68 | 0.06 | 0.04 | 0.88 | 0.47 | -0.65 | 0.08 | 0.32 |
| 385 | 6.56 | 17.66 | 1 | 0.06 | 0.04 | 0.85 | 0.45 | -0.68 | 0.12 | 0.33 |
| 390 | 6.64 | 20.68 | 1.19 | 0.06 | 0.04 | 0.9 | 0.45 | -0.63 | 0.08 | 0.33 |
| 395 | 6.71 | 15.95 | 0.97 | 0.06 | 0.03 | 0.79 | 0.49 | -0.63 | 0.17 | 0.33 |
| 400 | 6.79 | 20.27 | 1.06 | 0.06 | 0.04 | 0.97 | 0.4 | -0.68 | 0.08 | 0.33 |
| 405 | 6.86 | 12.98 | 0.79 | 0.06 | 0.04 | 0.91 | 0.43 | -0.67 | 0.11 | 0.32 |
| 410 | 6.94 | 20 | 1.14 | 0.06 | 0.04 | 0.97 | 0.42 | -0.68 | 0.07 | 0.32 |

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|-----|------|-------|------|------|------|------|------|-------|------|------|
| 415 | 7.01 | 21.78 | 1.22 | 0.06 | 0.04 | 1 | 0.44 | -0.67 | 0.1 | 0.32 |
| 420 | 7.09 | 14.18 | 0.86 | 0.06 | 0.04 | 0.81 | 0.44 | -0.67 | 0.12 | 0.32 |
| 425 | 7.17 | 17.4 | 0.95 | 0.06 | 0.04 | 0.81 | 0.41 | -0.7 | 0.17 | 0.36 |
| 430 | 7.24 | 17.09 | 0.99 | 0.06 | 0.04 | 0.9 | 0.44 | -0.67 | 0.09 | 0.34 |
| 435 | 7.32 | 16.21 | 0.88 | 0.05 | 0.04 | 0.85 | 0.44 | -0.66 | 0.09 | 0.34 |
| 440 | 7.39 | 20.69 | 1.16 | 0.06 | 0.04 | 0.86 | 0.47 | -0.65 | 0.08 | 0.33 |
| 445 | 7.47 | 14.28 | 0.99 | 0.07 | 0.04 | 0.81 | 0.43 | -0.66 | 0.11 | 0.34 |
| 450 | 7.55 | 19.49 | 1.31 | 0.07 | 0.04 | 0.89 | 0.42 | -0.68 | 0.13 | 0.32 |
| 455 | 7.62 | 12 | 0.9 | 0.08 | 0.04 | 0.96 | 0.44 | -0.63 | 0.14 | 0.35 |
| 460 | 7.71 | 14.83 | 1.06 | 0.08 | 0.05 | 0.94 | 0.41 | -0.67 | 0.12 | 0.34 |
| 465 | 7.8 | 12.95 | 0.9 | 0.07 | 0.04 | 0.77 | 0.44 | -0.65 | 0.16 | 0.34 |
| 470 | 7.9 | 14.48 | 1.04 | 0.07 | 0.04 | 0.85 | 0.46 | -0.65 | 0.16 | 0.33 |
| 475 | 7.99 | 14.08 | 0.82 | 0.06 | 0.03 | 0.83 | 0.45 | -0.69 | 0.16 | 0.33 |
| 480 | 8.09 | 9.15 | 0.7 | 0.08 | 0.04 | 0.89 | 0.43 | -0.68 | 0.17 | 0.37 |
| 485 | 8.18 | 10.56 | 0.87 | 0.09 | 0.04 | 0.86 | 0.45 | -0.65 | 0.2 | 0.35 |
| 490 | 8.27 | 7.96 | 0.78 | 0.11 | 0.04 | 0.93 | 0.46 | -0.64 | 0.21 | 0.35 |
| 495 | 8.37 | 7.37 | 0.67 | 0.1 | 0.05 | 0.95 | 0.42 | -0.73 | 0.16 | 0.35 |
| 500 | 8.46 | 6 | 0.63 | 0.12 | 0.04 | 0.96 | 0.45 | -0.65 | 0.23 | 0.37 |
| 505 | 8.56 | 5.61 | 0.67 | 0.12 | 0.04 | 0.82 | 0.44 | -0.66 | 0.29 | 0.38 |
| 510 | 8.65 | 4.26 | 0.49 | 0.13 | 0.04 | 0.9 | 0.44 | -0.67 | 0.35 | 0.39 |
| 515 | 8.75 | 5.41 | 0.63 | 0.13 | 0.04 | 0.81 | 0.44 | -0.67 | 0.32 | 0.35 |
| 520 | 8.84 | 3.94 | 0.38 | 0.12 | 0.05 | 0.96 | 0.42 | -0.69 | 0.42 | 0.31 |
| 525 | 8.93 | 2.6 | 0.41 | 0.19 | 0.06 | 0.98 | 0.41 | -0.65 | 0.43 | 0.35 |
| 530 | 9.03 | 3.06 | 0.45 | 0.17 | 0.05 | 0.94 | 0.42 | -0.64 | 0.38 | 0.34 |
| 535 | 9.12 | 3.75 | 0.52 | 0.16 | 0.04 | 0.91 | 0.49 | -0.57 | 0.41 | 0.33 |
| 540 | 9.22 | 2.63 | 0.45 | 0.19 | 0.05 | 0.84 | 0.44 | -0.63 | 0.42 | 0.34 |
| 545 | 9.31 | 2.67 | 0.45 | 0.19 | 0.05 | 0.87 | 0.43 | -0.65 | 0.39 | 0.33 |

Table2-2. GDGTs-based proxies of the core HLY0501- 08TC/JPC.

| Depth (cm) | Age (ka) | Iso GDGT ($\mu\text{g/g}$) | Br GDGT ($\mu\text{g/g}$) | BIT | MI | Cald/Cren | TEX ₈₆ | TEX ₈₆ ^L | CBT | MBT' | |
|---------------|-------------|---------------------------------|-----------------------------|------|------|-----------|-------------------|--------------------------------|------|------|--|
| 08MC | | | | | | | | | | | |
| 0.5 | -0.04 | 7.29 | 1.14 | 0.19 | 0.04 | 0.96 | 0.4 | -0.68 | 0.39 | 0.27 | |
| 08TC | | | | | | | | | | | |
| 29.5 | 0.61 | 8.61 | 0.93 | 0.11 | 0.04 | 0.73 | 0.44 | -0.68 | 0.26 | 0.3 | |
| 59.5 | 1.29 | 3.72 | 0.38 | 0.11 | 0.03 | 0.79 | 0.48 | -0.64 | 0.22 | 0.3 | |
| 89.5 | 1.97 | 8.64 | 1.18 | 0.16 | 0.04 | 0.9 | 0.45 | -0.64 | 0.31 | 0.28 | |
| 149.5 | 3.33 | 7.79 | 0.96 | 0.14 | 0.04 | 0.82 | 0.46 | -0.63 | 0.28 | 0.32 | |
| 08JPC | | | | | | | | | | | |
| 199.5 | 4.44 | 5.52 | 0.92 | 0.18 | 0.05 | 0.88 | 0.45 | -0.64 | 0.28 | 0.34 | |
| 61.5 | 1.58 | 5.9 | 0.83 | 0.15 | 0.04 | 0.93 | 0.45 | -0.66 | 0.22 | 0.31 | |
| 79.5 | 1.95 | 9.6 | 1.27 | 0.14 | 0.04 | 0.83 | 0.44 | -0.65 | 0.25 | 0.29 | |
| 98.5 | 2.34 | 7.61 | 0.99 | 0.13 | 0.03 | 0.73 | 0.48 | -0.64 | 0.21 | 0.33 | |
| 113.5 | 2.67 | 7.33 | 0.82 | 0.12 | 0.04 | 0.93 | 0.46 | -0.66 | 0.16 | 0.33 | |
| 131.5 | 3.06 | 18.44 | 1.92 | 0.11 | 0.03 | 0.73 | 0.48 | -0.64 | 0.24 | 0.29 | |
| 148.5 | 3.43 | 13.45 | 1.29 | 0.11 | 0.03 | 0.82 | 0.45 | -0.71 | 0.27 | 0.29 | |
| 165.5 | 3.8 | 12.19 | 1.25 | 0.11 | 0.03 | 0.78 | 0.47 | -0.67 | 0.29 | 0.31 | |
| 174.5 | 3.99 | 2.55 | 0.4 | 0.18 | 0.04 | 0.99 | 0.45 | -0.63 | 0.29 | 0.34 | |
| 183.5 | 4.15 | 12.68 | 1.5 | 0.14 | 0.04 | 0.84 | 0.41 | -0.69 | 0.34 | 0.29 | |
| 235.5 | 4.36 | 4.23 | 0.49 | 0.14 | 0.04 | 0.96 | 0.46 | -0.65 | 0.25 | 0.29 | |
| 287.5 | 4.57 | 5.62 | 0.85 | 0.15 | 0.05 | 0.82 | 0.44 | -0.67 | 0.2 | 0.35 | |
| 356.5 | 4.84 | 2.89 | 0.44 | 0.16 | 0.04 | 0.81 | 0.47 | -0.65 | 0.31 | 0.34 | |
| 565.5 | 5.11 | 5.31 | 0.76 | 0.17 | 0.05 | 1.01 | 0.43 | -0.65 | 0.31 | 0.31 | |
| 640.5 | 5.32 | 3.3 | 0.56 | 0.2 | 0.05 | 1.04 | 0.41 | -0.62 | 0.33 | 0.3 | |
| 741.5 | 5.6 | 6.88 | 1.12 | 0.18 | 0.04 | 0.96 | 0.44 | -0.65 | 0.3 | 0.28 | |
| 816.5 | 5.81 | 3.22 | 0.46 | 0.17 | 0.05 | 0.98 | 0.43 | -0.62 | 0.28 | 0.31 | |
| 891.5 | 5.98 | 0.56 | 0.24 | 0.34 | 0.06 | 0.79 | 0.44 | -0.67 | 0.3 | 0.44 | |
| 941.5 | 6.2 | 1.61 | 0.38 | 0.23 | 0.05 | 0.71 | 0.47 | -0.58 | 0.37 | 0.34 | |
| 979 | 6.38 | 4.16 | 0.74 | 0.2 | 0.05 | 0.98 | 0.44 | -0.62 | 0.35 | 0.32 | |
| 1016.5 | 6.57 | 6.06 | 1.08 | 0.21 | 0.05 | 1.02 | 0.42 | -0.66 | 0.38 | 0.29 | |
| 1066.5 | 6.81 | 4.57 | 1.91 | 0.31 | 0.08 | 1.03 | 0.51 | -0.54 | 0.01 | 0.44 | |
| 1116.5 | 7.06 | 2.53 | 0.65 | 0.29 | 0.06 | 1.12 | 0.42 | -0.65 | 0.42 | 0.32 | |
| 1141.5 | 7.18 | 5.46 | 1.31 | 0.25 | 0.04 | 0.88 | 0.42 | -0.68 | 0.41 | 0.3 | |
| 1191.5 | 7.39 | 3.5 | 0.79 | 0.26 | 0.05 | 1.05 | 0.44 | -0.62 | 0.41 | 0.32 | |
| 1235.5 | 7.53 | 4.49 | 1.14 | 0.28 | 0.07 | 1.15 | 0.39 | -0.67 | 0.26 | 0.31 | |
| 1267.5 | 7.64 | 1.25 | 0.36 | 0.31 | 0.07 | 1.17 | 0.42 | -0.65 | 0.38 | 0.32 | |
| 1330 | 7.84 | 1.03 | 0.27 | 0.29 | 0.06 | 1.09 | 0.45 | -0.64 | 0.38 | 0.26 | |
| 1392 | 8.04 | 0.87 | 0.26 | 0.32 | 0.08 | 0.99 | 0.45 | -0.63 | 0.54 | 0.46 | |

Table 2-3. GDGTs-based proxies of the core HLY0501- 05TC/JPC.

| Depth (cm) | Age (ka) | Iso GDGT ($\mu\text{g/g}$) | Br GDGT ($\mu\text{g/g}$) | BIT | MI | Cald/Cren | TEX ₈₆ | TEX ₈₆ ^L | CBT | MBT' |
|---------------|-------------|---------------------------------|-----------------------------|------|------|-----------|-------------------|--------------------------------|-------|------|
| 04MC | | | | | | | | | | |
| 0.5 | -0.05 | 5.26 | 0.44 | 0.11 | 0.05 | 1.28 | 0.4 | -0.69 | 0.24 | 0.35 |
| 05TC | | | | | | | | | | |
| 9 | 0.08 | 7.65 | 0.3 | 0.05 | 0.05 | 1.37 | 0.42 | -0.67 | 0.09 | 0.34 |
| 25 | 0.33 | 7.87 | 0.26 | 0.04 | 0.04 | 1.13 | 0.45 | -0.66 | 0.12 | 0.32 |
| 52 | 0.74 | 3.81 | 0.21 | 0.07 | 0.05 | 1.15 | 0.45 | -0.66 | 0.16 | 0.37 |
| 100 | 1.48 | 15.22 | 0.52 | 0.04 | 0.04 | 1.04 | 0.43 | -0.67 | 0.13 | 0.32 |
| 150 | 2.24 | 2.57 | 0.19 | 0.08 | 0.05 | 1.04 | 0.41 | -0.69 | 0.2 | 0.45 |
| 200 | 3.01 | 11.4 | 0.53 | 0.05 | 0.04 | 0.96 | 0.41 | -0.68 | 0.13 | 0.29 |
| 05JPC | | | | | | | | | | |
| 76 | 1.11 | 9.1 | 0.31 | 0.04 | 0.04 | 1.02 | 0.43 | -0.66 | 0.14 | 0.31 |
| 100 | 1.48 | 7.3 | 0.83 | 0.09 | 0.05 | 0.91 | 0.47 | -0.64 | -0.06 | 0.5 |
| 136 | 1.73 | 12.99 | 0.36 | 0.03 | 0.04 | 1.05 | 0.46 | -0.68 | 0.12 | 0.31 |
| 160 | 1.9 | 3.92 | 0.29 | 0.09 | 0.05 | 1.03 | 0.42 | -0.68 | 0.19 | 0.32 |
| 173.5 | 2 | 6.78 | 0.33 | 0.05 | 0.04 | 0.96 | 0.42 | -0.69 | 0.1 | 0.33 |
| 197.5 | 2.17 | 12.95 | 0.37 | 0.04 | 0.04 | 1.1 | 0.44 | -0.67 | 0.18 | 0.31 |
| 221.5 | 2.34 | 8.12 | 0.42 | 0.06 | 0.04 | 1.09 | 0.45 | -0.68 | 0.18 | 0.32 |
| 253 | 2.56 | 7.85 | 0.28 | 0.04 | 0.04 | 1.06 | 0.42 | -0.66 | 0.22 | 0.39 |
| 285.5 | 2.8 | 18.24 | 0.64 | 0.04 | 0.03 | 0.87 | 0.41 | -0.68 | 0.16 | 0.31 |
| 317.5 | 3.02 | 7.24 | 0.52 | 0.07 | 0.05 | 0.98 | 0.44 | -0.66 | 0.04 | 0.38 |
| 342 | 3.2 | 9.87 | 0.34 | 0.04 | 0.03 | 0.92 | 0.44 | -0.64 | 0.18 | 0.33 |
| 398 | 3.6 | 10.57 | 0.61 | 0.06 | 0.04 | 0.9 | 0.46 | -0.66 | 0.14 | 0.34 |
| 462 | 4.05 | 5.12 | 0.22 | 0.05 | 0.04 | 1.04 | 0.42 | -0.69 | 0.08 | 0.32 |
| 523 | 4.48 | 12.68 | 0.86 | 0.07 | 0.04 | 1.01 | 0.41 | -0.69 | 0.14 | 0.34 |
| 555 | 4.7 | 9.69 | 0.55 | 0.06 | 0.04 | 1 | 0.41 | -0.68 | 0.16 | 0.35 |
| 575.5 | 4.81 | 8.27 | 0.43 | 0.06 | 0.04 | 1.08 | 0.42 | -0.68 | 0.11 | 0.32 |
| 611.5 | 5 | 16.25 | 0.94 | 0.06 | 0.04 | 0.98 | 0.4 | -0.72 | 0.17 | 0.35 |
| 680.5 | 5.3 | 16.91 | 1.09 | 0.07 | 0.04 | 0.92 | 0.39 | -0.7 | 0.18 | 0.31 |
| 775 | 5.73 | 12.57 | 0.98 | 0.08 | 0.04 | 0.91 | 0.41 | -0.67 | 0.17 | 0.33 |
| 823 | 6.04 | 16.59 | 0.77 | 0.05 | 0.04 | 0.74 | 0.41 | -0.66 | 0.2 | 0.32 |
| 855.5 | 6.25 | 4.78 | 0.35 | 0.09 | 0.05 | 1.09 | 0.41 | -0.66 | 0.15 | 0.32 |
| 903 | 6.58 | 7.01 | 0.54 | 0.1 | 0.05 | 1.13 | 0.38 | -0.72 | 0.22 | 0.33 |
| 951.5 | 6.93 | 10.15 | 0.85 | 0.1 | 0.04 | 1 | 0.41 | -0.66 | 0.25 | 0.35 |
| 975.5 | 7.1 | 7.47 | 0.5 | 0.08 | 0.05 | 1.14 | 0.37 | -0.71 | 0.17 | 0.32 |
| 1023.5 | 7.43 | 4.8 | 0.43 | 0.11 | 0.06 | 0.95 | 0.37 | -0.88 | 0.27 | 0.33 |
| 1055.5 | 7.66 | 3.95 | 0.54 | 0.18 | 0.05 | 1.14 | 0.41 | -0.68 | 0.42 | 0.36 |
| 1096 | 7.94 | 0.45 | 0.14 | 0.31 | 0.07 | 1.12 | 0.4 | -0.64 | 0.44 | 0.49 |
| 1120 | 8.11 | 0.86 | 0.25 | 0.34 | 0.08 | 1.3 | 0.38 | -0.67 | 0.53 | 0.39 |
| 1144 | 8.28 | 1.53 | 0.54 | 0.39 | 0.08 | 1.26 | 0.39 | -0.67 | 0.56 | 0.42 |
| 1192 | 8.62 | 2.72 | 0.46 | 0.24 | 0.08 | 1.21 | 0.35 | -0.69 | 0.63 | 0.36 |

| | | | | | | | | | | |
|--------|-------|------|------|------|------|------|------|-------|------|------|
| 1215.5 | 8.79 | 0.7 | 0.21 | 0.37 | 0.09 | 1.3 | 0.35 | -0.75 | 0.6 | 0.36 |
| 1238.5 | 8.95 | 0.58 | 0.15 | 0.34 | 0.1 | 1.24 | 0.38 | -0.64 | 0.77 | 0.42 |
| 1262.5 | 9.12 | 1.27 | 0.22 | 0.29 | 0.11 | 1.96 | 0.35 | -0.68 | 0.51 | 0.35 |
| 1286.5 | 9.29 | 1.27 | 0.48 | 0.41 | 0.08 | 1.26 | 0.37 | -0.66 | 0.57 | 0.4 |
| 1310.5 | 9.45 | 0.4 | 0.09 | 0.28 | 0.11 | 1.37 | 0.4 | -0.65 | 0.74 | 0.45 |
| 1353.5 | 10.98 | 0.8 | 0.23 | 0.37 | 0.1 | 1.25 | 0.35 | -0.67 | 0.8 | 0.43 |
| 1376 | 11.85 | 0.06 | 0.09 | 0.68 | 0.08 | 0.76 | 0.53 | -0.46 | 0.53 | 0.35 |
| 1425.5 | 12.62 | 0.35 | 0.22 | 0.51 | 0.08 | 1.01 | 0.52 | -0.52 | 0.67 | 0.37 |
| 1522 | 13.93 | 2.3 | 0.3 | 0.16 | 0.06 | 1.04 | 0.41 | -0.64 | 0.47 | 0.36 |
| 1591 | 14.86 | 4.7 | 0.67 | 0.19 | 0.06 | 1.06 | 0.4 | -0.64 | 0.56 | 0.3 |
