

Table 1. Radiocarbon Dates, Ash Horizons and Calibrated Ages Used to Create the Age Models

| Lab ID             | Core                 | Sample Depth (cm) | Dated Material                                     | 14C Date   | Calendar Age BP             |
|--------------------|----------------------|-------------------|--|------------|-----------------------------|
| DeltaR             | Calibrated Age Range | 1sigma Rel. Prob. | References for Individual Dates                    |            |                             |
| 1950 (Med. Prob.c) | Comment              |                   |  |            |                             |
| Poz-20001          | PSh-5157             | 7,5               | Bulk foraminifera                                  | 1460       | 160 71 21                   |
|                    | 767-1101             | 1                 | 942 Not used                                       | This study |                             |
|                    | PSh-5157             | 11,5              | Bulk foraminifera                                  | 1170       | 30 71 21 629-               |
| 687                | 1 659                |                   | This study   |            |                             |
| Poz-15134          | PSh-5157             | 15,5              | Mollusc  | 7490       | 40/7540 50 71 21            |
|                    | 7837-7932/7868-7982  | 1                 | 7883/7930 Not used                                 | This study |                             |
| Poz-20002          | PSh-5157             | 31                | Bulk foraminifera                                  | 3305       | 30 71 21                    |
|                    | 2988-3123            | 1                 | 3055 Not used                                      | This study |                             |
| Poz-36197          | PSh-5157             | 36.5              | Bulk foraminifera                                  | 3135       | 35 71 21                    |
|                    | 2767-2874            | 1                 | 2830 This study                                    |            |                             |
| Poz-20003          | PSh-5157             | 61                | Bulk foraminifera                                  | 3425       | 35 71 21                    |
|                    | 3163-3292            | 1                 | 3223 This study                                    |            |                             |
| Poz-20004          | PSh-5157             | 79                | Bulk foraminifera                                  | 4180       | 35 71 21                    |
|                    | 4090-4224            | 1                 | 4163 This study                                    |            |                             |
| Poz-36198          | PSh-5157             | 100.5             | Bulk foraminifera                                  | 5240       | 50 71 21                    |
|                    | 5472-5580            | 1                 | 5528 This study                                    |            |                             |
| Poz-15136          | PSh-5157             | 126               | Snail/mollusc                                      | 6380       | 40 71 21 6709-              |
| 6836               | 1 6769               |                   | This study   |            |                             |
| Poz-12699          | PSh-5157             | 143               | Yoldia   | 6820       | 40 71 21 7228-7332          |
|                    | 1 7280               |                   | This study   |            |                             |
| Poz-15137          | PSh-5157             | 168,5             | Mollusc  | 7360       | 40 71 21 7690-7802          |
|                    | 1 7751               |                   | This study   |            |                             |
| Poz-15138          | PSh-5157             | 220,5             | Mollusc  | 9000       | 50 71 21 9517-9651          |
|                    | 1 9590               |                   | This study   |            |                             |
| Poz-15130          | PSh-5159N            | 7.5               | Mollusc fragments, benthic foraminifera            |            |                             |
|                    | 102.46_0.32pMC       | 71 21             |  |            | Ivanova et al.              |
| [2008]             |                      |                   |  |            |                             |
| Poz-20399          | PSh-5159R            | 14.17             | Lenticulina sp.                                    | 635        | 30 71 21 174-               |
| 258                | 0.788 197            |                   | Ivanova et al. [2008]                              |            |                             |
| Poz-19995          | PSh-5159N            | 21.5              | Bulk foraminifera                                  | 1670       | 30 71 21                    |
|                    | 1118-1223            | 1                 | 1164 Ivanova et al. [2008]                         |            |                             |
| Poz-19997          | PSh-5159N            | 40.5              | Bulk foraminifera                                  | 2845       | 30 71 21                    |
|                    | 2426-2603            | 1                 | 2508 Risebrobakken et al. [2010]                   |            |                             |
| Poz-20568          | PSh-5159N            | 45.5              | Bulk foraminifera                                  | 4960       | 40 71 21                    |
|                    | 5132-5287            | 1                 | 5204 Risebrobakken et al. [2010]                   |            |                             |
| Poz-15131          | PSh-5159N            | 50.5              | Mollusc fragments                                  | 6105       | 35 71 21                    |
|                    | 6393-6500            | 1                 | 6451 Risebrobakken et al. [2010]                   |            |                             |
| Poz-19998          | PSh-5159N            | 60.5              | Bulk foraminifera                                  | 7040       | 40 71 21                    |
|                    | 7423-7507            | 1                 | 7472 Risebrobakken et al. [2010]                   |            |                             |
| Poz-12701          | PSh-5159N            | 69.5              | Brachiopod   | 7500       | 40 71 21 7844-7939          |
|                    | 1 7892               |                   | Risebrobakken et al. [2010]                        |            |                             |
| Poz-19999          | PSh-5159N            | 86.5              | Bulk foraminifera                                  | 8550       | 50 71 21                    |
|                    | 9010-9171            | 1                 | 9103 Risebrobakken et al. [2010]                   |            |                             |
| Poz-15132          | PSh-5159N            | 99.5              | Mollusc fragments, benthic foraminifera, ostracode | 9700       | 50 71 21 10444-105561 10496 |
|                    |                      |                   | Risebrobakken et al. [2010]                        |            |                             |
| Poz-19991          | PSh-5159R            | 122.5             | Mollusc  | 10010      | 50 71 21 10565-10779        |
|                    | 1 10693              |                   | Risebrobakken et al. [2010]; Chistyakova et al.    |            |                             |
| [2010]             |                      |                   |  |            |                             |

|           |                           |          |                              |       |     |     |    |             |       |
|-----------|---------------------------|----------|------------------------------|-------|-----|-----|----|-------------|-------|
| Poz-15133 | PSh-5159N                 | 133.5    | Mollusc fragments            | 10290 | 50  | 71  | 21 |             |       |
|           | 11029-111961              | 11100    | Risebrobakken et al. [2010]  |       |     |     |    |             |       |
| Poz-12629 | PSh-5159N                 | 148.5    | Astarte crenata              | 10360 | 50  | 71  | 21 |             |       |
|           | 11118-112171              | 11165    | Risebrobakken et al. [2010]  |       |     |     |    |             |       |
| Poz-16594 | PSh-5159R                 | 241      | Bulk benthic foraminifera    | 12150 | 70  | 71  | 71 |             |       |
| 21        | 13405-136061              | 13515    | Risebrobakken et al. [2010]; |       |     |     |    |             |       |
|           | Chistyakova et al. [2010] |          |                              |       |     |     |    |             |       |
| Poz-19992 | PSh-5159R                 | 333      | Bulk benthic foraminifera    | 13550 | 70  | 71  | 71 |             |       |
| 21        | 15486-162270.961          | 15813    | Risebrobakken et al. [2010]; |       |     |     |    |             |       |
|           | Chistyakova et al. [2010] |          |                              |       |     |     |    |             |       |
| KIA7648   | M23258                    | 25       | NPS                          | 1165  | 35  | 71  | 21 | 622-689     | 1     |
|           | 655                       |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7649   | M23258                    | 51       | NPS                          | 2555  | 30  | 71  | 21 | 2071-2210   | 1     |
|           | 2145                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7650   | M23258                    | 67       | NPS                          | 3500  | 35  | 71  | 21 | 3255-3358   | 1     |
|           | 3307                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7651   | M23258                    | 93       | NPS                          | 4825  | 40  | 71  | 21 | 4889-5067   | 1     |
|           | 5002                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA11534  | M23258                    | 118      | NPD                          | 6140  | 70  | 71  | 21 | 6404-6581   | 1     |
|           | 6495                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7653   | M23258                    | 154      | NPS                          | 7660  | 45  | 71  | 21 | 7988-8112   | 1     |
|           | 8050                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7654   | M23258                    | 177      | NPS                          | 8380  | 45  | 71  | 21 | 8796-8969   | 1     |
|           | 8872                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA8553   | M23258                    | 192      | NPS                          | 8760  | 40  | 71  | 21 | 9312-9426   | 1     |
|           | 9368                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA11535  | M23258                    | 207      | NPD                          | 8955  | 55  | 71  | 21 | 9473-9599   | 1     |
|           | 9541                      |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA9193   | M23258                    | 241      | NPS                          | 9330  | 70  | 71  | 21 | 9996-10186  | 0.927 |
|           | 10074                     |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA8554   | M23258                    | 249      | NPS                          | 9235  | 50  | 71  | 21 | 9880-10095  | 1     |
|           | 9965                      | Not used | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA9354   | M23258                    | 250      | NPS                          | 9435  | 55  | 71  | 21 | 10147-10264 | 1     |
|           | 10210                     |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7657   | M23258                    | 315      | NPS                          | 10980 | 70  | 200 | 50 | 12050-12365 | 1     |
|           | 12216                     |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA7659   | M23258                    | 355      | NPS                          | 12010 | 55  | 71  | 21 | 13295-13409 | 1     |
|           | 13359                     |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| KIA 9354  | M23258                    | 394      | NPS                          | 12390 | 60  | 71  | 21 | 13672-13837 | 1     |
|           | 13751                     |          | Sarnthein et al. [2003]      |       |     |     |    |             |       |
| Poz-8245  | MD95-2011                 | 5        | NPD                          | 1020  | 100 | 0   | 0  | 519-665     | 1     |
|           | Not used                  |          | This study                   |       |     |     |    |             | 600   |
| GifA96471 | MD95-2011                 | 10.5     | NPD                          | 980   | 60  | 0   | 0  | 526-619     | 1     |
|           |                           |          | Risebrobakken et al. [2003]  |       |     |     |    |             | 573   |
| KIA 5600  | MD95-2011                 | 24.5     | NPD                          | 1590  | 40  | 0   | 0  | 1102-1215   | 1     |
|           |                           |          | Not used                     |       |     |     |    |             | 1153  |
| KIA 3925  | MD95-2011                 | 30.5     | NPD                          | 1040  | 40  | 0   | 0  | 590-649     | 0.789 |
|           |                           |          | Risebrobakken et al. [2003]  |       |     |     |    |             | 611   |
| KIA 5601  | MD95-2011                 | 47.5     | NPD                          | 1160  | 30  | 0   | 0  | 667-727     | 1     |
|           |                           |          | Risebrobakken et al. [2003]  |       |     |     |    |             | 703   |
| Poz-8244  | MD95-2011                 | 55.5     | NPD                          | 1530  | 90  | 0   | 0  | 976-1174    | 1     |
|           |                           |          | Not used                     |       |     |     |    |             | 1085  |
| KIA 3926  | MD95-2011                 | 70.5     | NPD                          | 1460  | 50  | 0   | 0  | 941-1057    | 1     |
|           |                           |          | Risebrobakken et al. [2003]  |       |     |     |    |             | 1008  |
| KIA 6286  | MD95-2011                 | 89.5     | NPD                          | 1590  | 30  | 0   | 0  | 740-838     | 1     |
|           |                           |          | Not used                     |       |     |     |    |             | 796   |
| Poz-8246  | MD95-2011                 | 102      | NPD                          | 1790  | 60  | 0   | 0  | 1275-1390   | 1     |
|           |                           |          | This study                   |       |     |     |    |             | 1338  |



MD99-2284 362.5 Tephra 12170 Vedde Ash  
Poz-29526 MD99-2284 423.5 NPS 11440 80 0 0 12799-129860.733 12912  
This study

aNPD = N. pachyderma (dex), NPS = N. pachyderma (sin).  
bRelative probability.  
cMedian probability.