

## APPENDIX 1

### Chemical composition of carbonates from microprobe analyses (calculated to 100%)

| Borehole                                   | Age   | Depth [m] | Type of rocks | Mg wt.% | Ca wt.% | Mn wt.% | Fe wt.% | MgCO <sub>3</sub> mol.% | CaCO <sub>3</sub> mol.% | MnCO <sub>3</sub> mol.% | FeCO <sub>3</sub> mol.% | Number of point of analysis and type of carbonate |
|--|-------|-----------|---------------|---------|---------|---------|---------|-------------------------|-------------------------|-------------------------|-------------------------|---|
| Northeastern margin of the Holy Cross Mts. |       |           |               |         |         |         |         |                         |                         |                         |                         |   |
| Gutwin                                     | Bj2   | 201.6     | sst           | 1.68    | 0.49    | 0.49    | 40.92   | 5.9                     | 8.6                     | 1.0                     | 84.5                    | 1 Sdp sp rb                                       |
|  |       |           |               | 6.40    | 4.82    | 0.53    | 30.99   | 22.5                    | 12.1                    | 1.1                     | 64.3                    | 2 Pt sp rb  |
|  |       |           |               | 7.07    | 22.55   | 0.27    | 8.35    | 25.0                    | 56.9                    | 0.6                     | 17.5                    | 3 Ak sp   |
| Waglany k/Opoczna                          | Bt3   | 267.7     | scq           | 6.43    | 20.99   | 0.32    | 9.29    | 23.7                    | 55.3                    | 0.8                     | 20.2                    | 1 Ak sp   |
|  |       |           |               | 3.97    | 3.39    | 0.29    | 31.48   | 15.8                    | 9.6                     | 0.7                     | 73.9                    | 2 Sdp sp  |
|  |       |           |               | 6.45    | 22.58   | 0.36    | 7.28    | 23.8                    | 59.4                    | 0.9                     | 15.9                    | 3 Ak sp   |
|  | Bt1-2 | 395.2     | cls           | 3.48    | 3.59    | 0.00    | 33.22   | 13.5                    | 10.0                    | 0.0                     | 76.5                    | 1 Sdp sp ooid                                     |
|  |       |           |               | 3.48    | 2.22    | 0.00    | 36.79   | 13.0                    | 5.9                     | 0.0                     | 81.3                    | 2 Sdp sp ooid                                     |
|  |       |           |               | 2.59    | 2.37    | 0.56    | 38.84   | 9.4                     | 6.1                     | 1.2                     | 83.3                    | 3 Sdp msp   |
|  |       |           |               | 2.02    | 3.06    | 0.73    | 37.17   | 7.6                     | 8.2                     | 1.6                     | 82.6                    | 4 Sdp msp   |
|  | Aa1   | 597.2     | cls           | 8.68    | 1.23    | 0.13    | 29.51   | 32.0                    | 3.3                     | 0.3                     | 64.4                    | 1 Pt sp rb ooid                                   |
|  |       |           |               | 5.21    | 2.75    | 0.23    | 31.95   | 19.9                    | 7.5                     | 0.5                     | 72.1                    | 3 Sdp sp  |
|  |       |           |               | 8.51    | 1.40    | 0.29    | 28.41   | 32.1                    | 3.8                     | 0.7                     | 63.4                    | 4 Pt sp   |
|  |       |           |               | 3.31    | 1.51    | 0.21    | 35.74   | 12.9                    | 4.2                     | 0.5                     | 82.4                    | 5 Sdp mic   |
|  |       |           |               | 1.04    | 0.98    | 1.17    | 41.16   | 3.9                     | 2.6                     | 2.6                     | 90.9                    | 6 Sdp mic   |
|  | Aa1   | 600.2     | sst           | 6.10    | 0.94    | 0.35    | 27.72   | 26.3                    | 2.9                     | 0.9                     | 69.9                    | 1 Pt sp rb  |
|  |       |           |               | 5.17    | 1.30    | 0.95    | 22.95   | 25.5                    | 4.6                     | 2.8                     | 67.1                    | 1a Pt sp rb                                       |
|  |       |           |               | 5.14    | 0.64    | 0.56    | 30.55   | 21.4                    | 1.9                     | 1.4                     | 75.3                    | 2 Sdp ms  |
|  |       |           |               | 5.94    | 1.15    | 1.29    | 27.80   | 24.0                    | 3.5                     | 3.2                     | 69.3                    | 3 Pt msp  |
|  | Aa1   | 643.8     | sst           | 3.43    | 1.34    | 1.83    | 35.02   | 13.1                    | 3.6                     | 4.2                     | 79.1                    | 1 Sdp sp rb                                       |
|  |       |           |               | 0.98    | 0.14    | 0.85    | 40.02   | 3.9                     | 0.4                     | 2.0                     | 93.7                    | 3 Sdp sp rb                                       |
|  |       |           |               | 3.74    | 2.14    | 1.41    | 33.36   | 14.5                    | 5.9                     | 3.3                     | 76.3                    | 2 Sdp sp rb                                       |
|  |       |           |               | 2.25    | 0.66    | 1.06    | 35.68   | 9.2                     | 1.9                     | 2.6                     | 86.3                    | 4 Sdp Sph   |
|  |       |           |               | 1.85    | 0.67    | 1.54    | 36.92   | 7.6                     | 2.8                     | 3.4                     | 86.2                    | 5 Sdp Sph   |
| Częstochowa region                         |       |           |               |         |         |         |         |                         |                         |                         |                         |   |
| Biskupice 25BN                             | Bt1   | 134.7     | sst           | 1.53    | 2.49    | 0.34    | 42.98   | 5.3                     | 6.1                     | 0.7                     | 87.9                    | 1 Sdp sp  |
|  |       |           |               | 6.22    | 5.66    | 0.28    | 31.03   | 21.6                    | 14.1                    | 0.6                     | 63.7                    | 1a Pt sp rb                                       |
|  |       |           |               | 1.76    | 4.35    | 0.23    | 38.98   | 6.3                     | 11.1                    | 0.5                     | 82.1                    | 2 Sdp mic   |
|  |       |           |               | 0.29    | 37.77   | 0.37    | 2.03    | 1.0                     | 94.0                    | 0.8                     | 4.2                     | 3 Fe-Ka shell                                     |
|  |       |           |               | 0.62    | 37.51   | 0.12    | 1.60    | 2.2                     | 94.2                    | 0.3                     | 3.3                     | 3a Fe-Ka shell                                    |
| Łutowiec 135Ż                              | Bj1   | 178.9     | cls           | 2.69    | 5.09    | 1.12    | 37.51   | 9.2                     | 12.4                    | 2.3                     | 76.1                    | 1 Sdp sp rb                                       |
|  |       |           |               | 2.13    | 3.51    | 1.00    | 39.82   | 7.4                     | 8.7                     | 2.1                     | 81.8                    | 2 Sdp msp   |
| Parkoszowice 58BN                          | Bj2   | 101.0     | cls           | 0.61    | 36.34   | 0.38    | 2.66    | 2.1                     | 91.6                    | 0.8                     | 5.5                     | 1 Fe-Ka ooid                                      |
|  |       |           |               | 1.04    | 38.48   | 0.23    | 0.97    | 3.5                     | 94.0                    | 0.5                     | 2.0                     | 2 Fe/Mn-Ka ooid                                   |
|  |       |           |               | 5.56    | 23.34   | 0.88    | 9.39    | 19.5                    | 58.3                    | 1.8                     | 19.4                    | 2a Ak ooid  |
|  |       |           |               | 5.75    | 23.61   | 0.52    | 9.18    | 20.3                    | 59.5                    | 1.1                     | 19.1                    | 3 Ak ooid   |
|  |       |           |               | 2.03    | 3.65    | 0.00    | 40.54   | 7.1                     | 9.1                     | 0.0                     | 83.8                    | 4 Sdp msp ooid                                    |
|  |       |           |               | 2.26    | 4.85    | 0.14    | 39.34   | 7.8                     | 11.9                    | 0.3                     | 80.0                    | 5 Sdp mic cement                                  |
|  |       |           |               | 1.88    | 2.67    | 0.53    | 41.80   | 6.5                     | 6.6                     | 1.1                     | 85.8                    | 6 Sdp mic cement                                  |
|  | Bj2   | 102.3     | cls           | 2.58    | 4.72    | 0.00    | 38.25   | 9.0                     | 11.8                    | 0.0                     | 79.2                    | 1 Sdp sp  |
|  |       |           |               | 2.26    | 3.39    | 0.34    | 39.57   | 8.0                     | 8.6                     | 0.7                     | 82.7                    | 2 Sdp sp  |
|  | Bj2   | 104.1     | cls           | 2.32    | 4.38    | 0.04    | 38.69   | 8.1                     | 11.1                    | 0.1                     | 80.7                    | 1 Sdp sp ooid                                     |
|  |       |           |               | 2.64    | 5.23    | 0.00    | 36.93   | 9.3                     | 13.3                    | 0.0                     | 77.4                    | 1a Sdp sp ooid                                    |
|  |       |           |               | 2.40    | 4.48    | 0.70    | 36.99   | 8.6                     | 11.5                    | 1.5                     | 78.4                    | 2 Sdp mic cement                                  |
| Zrebice 33BN                               | Bj2   | 372.7     | sst           | 2.52    | 5.31    | 0.24    | 37.20   | 8.8                     | 13.4                    | 0.5                     | 77.3                    | 1 Sdp sp cement                                   |
|  |       |           |               | 3.06    | 5.31    | 0.39    | 36.82   | 10.6                    | 13.1                    | 0.8                     | 75.5                    | 1a Sdp sp cement                                  |
|  |       |           |               | 2.47    | 5.11    | 0.00    | 37.61   | 8.7                     | 12.9                    | 0.0                     | 78.4                    | 2 Sdp Sph   |
|  |       |           |               | 4.27    | 5.72    | 0.47    | 34.15   | 14.8                    | 14.2                    | 1.0                     | 70.0                    | 2a Sdp Sph  |
|  |       |           |               | 2.77    | 5.06    | 0.00    | 36.97   | 9.8                     | 12.8                    | 0.0                     | 77.4                    | 3 Sdp sp  |
|  |       |           |               | 4.75    | 6.49    | 0.27    | 32.36   | 16.5                    | 16.2                    | 0.6                     | 66.7                    | 3a Sdp sp rb                                      |
|  |       |           |               | 0.14    | 1.19    | 1.66    | 45.50   | 0.5                     | 3.0                     | 3.4                     | 93.1                    | 3b Sd msp   |

For explanations see Table 1