**The results of simultaneous thermal analysis STA measurements interpretation coupled with quadrupole mass spectometry (QMS) (Przelaskowska, Klaja 2017, modified) used for retort measurements interpretation**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | Lithostratigraphy | | clay minerals dehydration | | organic matter decomposition | | clay minerals dehydroxylation | | mcl  [%] | Joint temp. range[°C]  morg/ mstr |
| temp.  range  [°C] | mads  [%] | temp.  range  [°C] | morg  [%] | temp. range  [°C] | mstr  [%] |
| 5674 | Miocene | Sst | 40-140 | 0.74 | 300-500 | 1.88 | 450-605 | 2.54 | 3.28 | 450-500 |
| 5678 | Sst | 45-120 | 0.09 | 300-480 | 1.09 | 440-560 | 1.77 | 1.86 | 440-480 |
| 1234 | Sst | 40-135 | 0.84 | 300-500 | 1.44 | 450-620 | 2.45 | 3.29 | 450-500 |
| 20280 | Clst | 45-165 | 1.37 | 300-480 | 1.79 | 450-610 | 3.24 | 4.61 | 450-480 |
| 20285 | Mdst | 30-150 | 1.45 | 305-500 | 1.94 | 450-620 | 2.87 | 4.32 | 450-500 |
| 16577 | Clst | 45-145 | 2.09 | 370-490 | 1.34 | 455-620 | 3.29 | 5.38 | 455-490 |
| 12233 | Paleocene | Sst | - | - | 300-500 | 0.72 | 450-550 | 0.57 | 0.57 | 450-500 |
| 12394 | Sst | 40-145 | 1.06 | 300-530 | 2.99 | 500-600 | 1.71 | 2.77 | 500-530 |
| 20784 | Lower Paleozoic | Mdst | 40-145 | 0.48 | 350-500 | 1.86 | 470-625 | 2.73 | 3.21 | 470-500 |
| 20785 | Mdst | 30-140 | 0.46 | 425-500 | 0.78 | 450-625 | 3.11 | 3.57 | 450-500 |
| 20786 | Clst | 40-155 | 1.21 | 370-535 | 4.42 | 390-630 | 5.8 | 7.01 | 390-535 |
| 20787 | Mdst | 40-125 | 0.25 | 300-550 | 6.72 | 480-605 | 3.62 | 3.87 | 480-550 |
| 20788 | Mdst | - | - | 300-550 | 4.16 | 475-550 | 2.54 | 2.54 | 475-550 |
| 20789 | Mdst | 35-140 | 0.48 | 300-520 | 3.64 | 480-655 | 3.01 | 3.49 | 480-520 |

*mads mass loss connected with the release of water absorbed on clay surfaces and interlayer water (clay minerals dehydration), morg mass loss connected with organic matter decomposition, mstr mass loss connected with release of structural water (clay minerals dehydroxylation), mcl mass loss connected with total water release from clay minerals (mads + mstr), morg/ mstr joint temperature range of organic matter decomposition and dehydroxylation of clay minerals, SSt - sandstone, Mdst – mudstone, Clst - claystone*