

Distribution of elements in the world lignite average and its comparison with lignite seams of the North Bohemian and Sokolov Basins, Czech Republic

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The increased concern over the environmental impact of combustion of fossil fuels provides the impetus for learning more about the probable mode of occurrence of the trace elements in.

Total sulfur content (S_t^d) in lignite of the North Bohemian Basin corresponds to the geometric mean 1.61 wt % at $n = 12,979$ and is mostly influenced by the presence of iron disulfides. In the Sokolov Basin, the majority of S is bound to iron disulfides, too. Total sulfur content (S_t^d) in lignite of the Sokolov Basin is 1.64 wt % at $n = 14,258$, however in lignite of the Josef seam is much higher ($x = 4.58$ wt % at $n = 4,230$). Arsenic is positively correlated with sulfur.

Three data sets on sulfur and trace elements distribution were statistically treated to compare the lignite of the North Bohemian and Sokolov Basins with the world lignite average. It resulted in the idea that during the early stages of the development of the North Bohemian Basin as well as the Sokolov Basin, the weathered rocks surrounding the depressions were exposed to erosion which allowed the weathered material to supply the basins with S, As and other elements.