

## Implications for paleoenvironment and tectonic setting of Khujirt area, Northern Mongolia

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Khujirt is a syncline that hosts Jurassic coal deposit in Northern Mongolia. Nine coal samples collected from exploration borehole were selected for analyses of major oxide and trace and REE elements of coal ash. The analyses were performed at Central Geological Laboratory in Ulaanbaatar, Mongolia according to appropriate international standards.

The average value of CAI for the samples is  $82.8 \pm 1.6$ , reflecting intensive weathering in the source area. The plotted data on A-CN-K diagram displays that rocks in coal were sourced mainly from Early Permian andesite and basalt and Early Paleozoic granodiorite, which borders Khujirt syncline. It is also supported by  $\text{Al}_2\text{O}_3/\text{TiO}_2$  (avg.  $18.4 \pm 0.3$ ) and  $\text{TiO}_2/\text{Zr}$  ( $63.4 \pm 2.4$ ) ratios. To infer tectonic setting, two multi-dimensional discrimination diagrams were used. The results suggest that the tectonic setting of Khujirt was foreland basin that was probably formed by closure of Mongol-Okhotsk Ocean. This finding is consistent with generally accepted tectonic history of the region. Low Rb/Sr (0.02-0.04) and high Sr/Cu (13.8-30.6) ratios of the studied samples indicate that arid climate condition was dominant during the deposition of Khujirt peat accumulation. This conclusion is supported by C-values of the samples range from 0.1 to 0.3 as well. Due to arid condition, salinity was high reflecting substantially high Sr/Ba ratio varying from 1.7 to 2.7.

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