Geochemistry of trace elements in coals from Iqe Coalfield, Tibet Plateau, China: Emphasis on abnormity enrichment of Ga-Rb-Cs-REY

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Results

We present multi-element data on coals of Jurassic age from Iqe Coalfield, in Qinghai Province, China. The coals are all highly enriched in Ga, Rb, Cs, and REY. The average contents of Ga, Rb, Cs, and REY reach to 28.6, 128.6, 16.5, and 240.1 ppm, respectively. Their average contents of these elements are 4.8, 10.9, 15, and 3.5 times higher than those of world coals, respectively (Table 1). Major elements are dominated by SiO_2 (23.84%), Al_2O_3 (12.52%), K_2O (1.01%) and Fe_2O_3 (0.95%).

	Ga	Rb	Cs	REY
AVE	28.6	128.6	16.5	240.1
World[1]	6	10.9	1.1	68.61
CC	4.8	10.9	15	3.5

Note: CC (concentration coefficient)= AVE/World

Table 1: Concentration of Ga, Rb, Cs and REY in Iqe coal (ppm; on whole-coal basis)

Discussion

Kaolinite, quartz, muscovite, siderite, dolomite, rutile and brookite were recognised in the XRD and Siroquant patterns. Relative positive correlations between Al2O3 and Rb, Cs, Ga may indicate that clay minerals (mainly kaolinite) may be the hosted or absorbed minerals. Ga and Rb+Cs, Rb and Cs have very good positive correlations, which indicate that they may have genetic relationships, however, Ga and Rb+Cs have very weak or no genetic relationships with REY

[1]Ketris &Yudovich(2009)*Int. J. Coal Geol.* **78,** 135-148.