

Upgrading of Low Rank Coal KBB by heavy oil and its effect on spontaneous combustion characteristics of coal

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Spontaneous combustion of coal is one of the most serious natural disasters in the world's coal industries. Here we developed the new upgrading process using heavy oil such as asphalt at mild reaction condition. The asphalt has coated on the pores and surface of the coal that can shield the coal from oxidation by atmospheric oxygen, thus could be inhibiting the spontaneous combustion or self heating occurrence. Here we have prepared the asphalt treated coal using various concentration of asphalt in the different pressure conditions subsequently all the samples were subjected to spontaneous combustion analysis. According to the CPT and BET surface area analysis, we have optimized the concentration of asphalt and process conditions to be needed to upgrading of low rank coal for cost effective application in prevention of spontaneous combustion.