

Effect of coal-demineralization on the CO<sub>2</sub>-gasification of Inner Mongolian and North Dakota lignite

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Lignite samples were demineralized using 0.1 M H<sub>2</sub>SO<sub>4</sub> and 0.1 M HCl to remove alkali components responsible for the catalysis of CO<sub>2</sub> gasification of fresh lignite. Gasification was performed from 600 °C to 900 °C in a thermogravimetric analyzer. Reduction in the alkali index of the demineralized lignite samples resulted to reduction in the gasification rate. The catalytic property of the ash obtained from the lignite samples were also evaluated using graphite as a means of evaluating the possibility of re-using the ash.