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Technical evaluation of coal mined by Small Micro and Medium Enterprises

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Unemployment is one of the most critical challenges facing poor people in South Africa [1]. Over the last two decades, many sectors, mining included, in the formal economy have been shedding jobs mainly due to weakening prices and a sluggish outlook for demand [2]. The development and growth of Small, Micro and Medium Enterprises (SMMEs) in the mining sector plays an important role in turning this situation around. Government policies and programmes aimed at supporting the development of SMMEs are thus crucial in uplifting the economy and ultimately creating a better life for its people [3].

This study focuses on evaluating the quality of coal mined by SMMEs in the mining sector in South Africa. These SMMEs aspire to export coal and to also supply Eskom with good quality coal for power generation. Coal mining supports local communities and provides a big boost to regional and national economies. The figure below illustrates the vicinity where SMMEs mine coal.



Figure 1: A typical small scale coal deposit.

Mintek's Small Scale Mining and Beneficiation (SSMB) division analysed four coal samples on behalf of SMMEs. The calorific value, volatile matter, sulphur, ash and moisture contents of coal samples were determined and compared with export and Eskom specifications. A literature

review was also undertaken to develop a deeper understanding

of the coal mining in South Africa, export and local specifications of good quality coal. The tested coal samples were not suitable for generating electricity, because of the low calorific values and high ash content compared to export and Eskom's coal specification and rejection criteria. It was recommended that the tested coal should be used for household heating using coal stoves. The SMMEs can generate income through selling these coal grades to communities nearby and villages where there are limited alternatives in terms of energy sources.

References:

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