

“American Mining Engineers in the Kimberley and Witwatersrand Mines *Circa* The Turn Of The 20th Century”

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The development of mines in the western states of the United States of America (USA) began earlier than that of the mines of West Griqualand where Kimberley was located and the Transvaal where the Witwatersrand was situated. American colleges and universities offering courses in mining engineering and metallurgy followed shortly after the opening up and development of the mines in parts of the USA.

Consequently, American mining engineers were ahead in their mining experiences and technical competencies which they brought and applied in helping develop the Kimberley diamond and Witwatersrand gold mines. They were recruited to these mines by British and European capitals who recognised and relied on their advice before investing in mining anywhere. For this, they were paid handsomely.

It was through managing the fledgling diamond and particularly the gold mines that their scientific, technical and organisational knowledge that they exerted enormous influence in improving mining methods, the technical education required to develop and successfully grow these industries.

Among a number of notable contributions American mining engineers made were the introduction of one or two large inclined shafts; the significant advances in the speed with which larger shafts were sunk; the direct treatment method in which all the pulp from the battery passed through hydraulic classifiers where the slimes were eliminated and the rest of the pulp went into tanks to be treated with cyanide, the introduction of electric power; the introduction of the bottom discharge in the treatment of large accumulations of tailings by the MacArthur-Forrest cyanide process; the adoption of a uniform mapping scale that used either feet or meters; and the founding of a number of professional and technical association and companion journals.

Both the diamond and gold mining industries were the foundations on which South Africa was built. The growth and development of these two industries are indebted to the contributions that were made by American mining engineers who came and worked in the mines from around 1884 until 1917 when the Mine Managers' Association, formed in 1892, elected its first South African-born as President.