

from being the best available. With a Cr/Fe ratio of 1,6 to 1,8 we have to produce ferro-chrome which will be competitive in overseas markets with similar alloys made from ores in which the Cr/Fe ratio is 3 to 1. This was not an easy hurdle to surmount and an awful lot of toil and sweat and money was spent in learning the 'hard way' — *particularly in making low-carbon ferro-chrome*. Just when we had become reasonably confident in the process, we discovered that Union Carbide in the U.S.A. had developed a process for the manufacture of stainless steel that needed only a fraction of the low carbon ferro-chrome alloy that we had laboured so hard to learn to produce. That is the way with R & D work — the crest of the wave and the trough of despond — the bright ideas that seem so good until nearly the end of the road and then they fade into the night. *If one in ten of your ideas pays off you are a lucky man — but all ten have cost a lot of money and the tenth lucky one has to pay.*

Yet that, I believe, is the challenge that faces the mining and particularly the metallurgical world in South Africa — the challenge of development, of *exploiting the mineral resources we have*. Doing something which no computer can do and very very few computer experts know anything about. *Is this the challenge to the young men of the present* — the challenge not only to do the jobs and to face the problems we have faced but to see new horizons and new visions of what is possible in this land? Then perhaps we will again attract into our professions the able young men we so badly need.

VISIT TO HENDRINA POWER STATION AND OPTIMUM COLLIERY

A visit to Hendrina Power Station and the Optimum Colliery, contractually committed to supply the coal for the power station, took place on the 20th September, 1972.

In all fifty members of the Institute took advantage of the opportunity to be shown something of these projects.

A luxury S.A.R. bus provided transport from Johannesburg for 26 of the visitors, the remaining 24 made their own transport arrangements.

The visit to the Power Station took place during the morning. The Superintendent of the power station, Mr Kincade, welcomed the guests on behalf of the

Electricity Supply Commission, whereafter a conducted tour of the Power Station followed.

The size of the equipment and the capacities of the various installations were found to be quite overwhelming. A brochure containing some very interesting statistics was handed to each of the visitors.

Mr V. C. Robinson thanked the Superintendent and his staff for an enjoyable and interesting morning.

After an excellent luncheon provided by the Management of Optimum Collieries at the local staff mess, the open cast workings of the Colliery was visited.

The Colliery tour was conducted by Mr J. E. Robinson, the mine Manager, ably assisted by senior members of his staff.

The open-cast pit was very interesting especially with regard to the stripping of the overburden to expose the three coal seams to be mined. The Marion 8000 type walking dragline, although not working at the time of the visit, was nevertheless very impressive. Visitors were afforded the opportunity to have a close-up view of this machine which took 14 months to erect. The cost, including original purchase price, shipping cost and erection charges was R3 500 000. The completed weight is 2 240 tons. It can move 764 554 cubic metres of overburden per month working 24 hours per day. There is a cycle timing of 42 cubic metres per second with power peaking at 8,7 megawatts.

The machine is equipped with a 42 cubic metre bucket which can dig and cast 72,6 tons per bite.

The total weight of the bucket and its load is 129,7 tons.

On behalf of the visitors, Mr P. W. J. van Rensburg thanked the Mine Manager and his staff for their hospitality.

INTERNATIONAL IRON AND STEEL CONGRESS

This congress will be held in Düsseldorf from May 23rd to 30th, 1974. The main theme is "Metallurgical Technology of Iron and Steelmaking".

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