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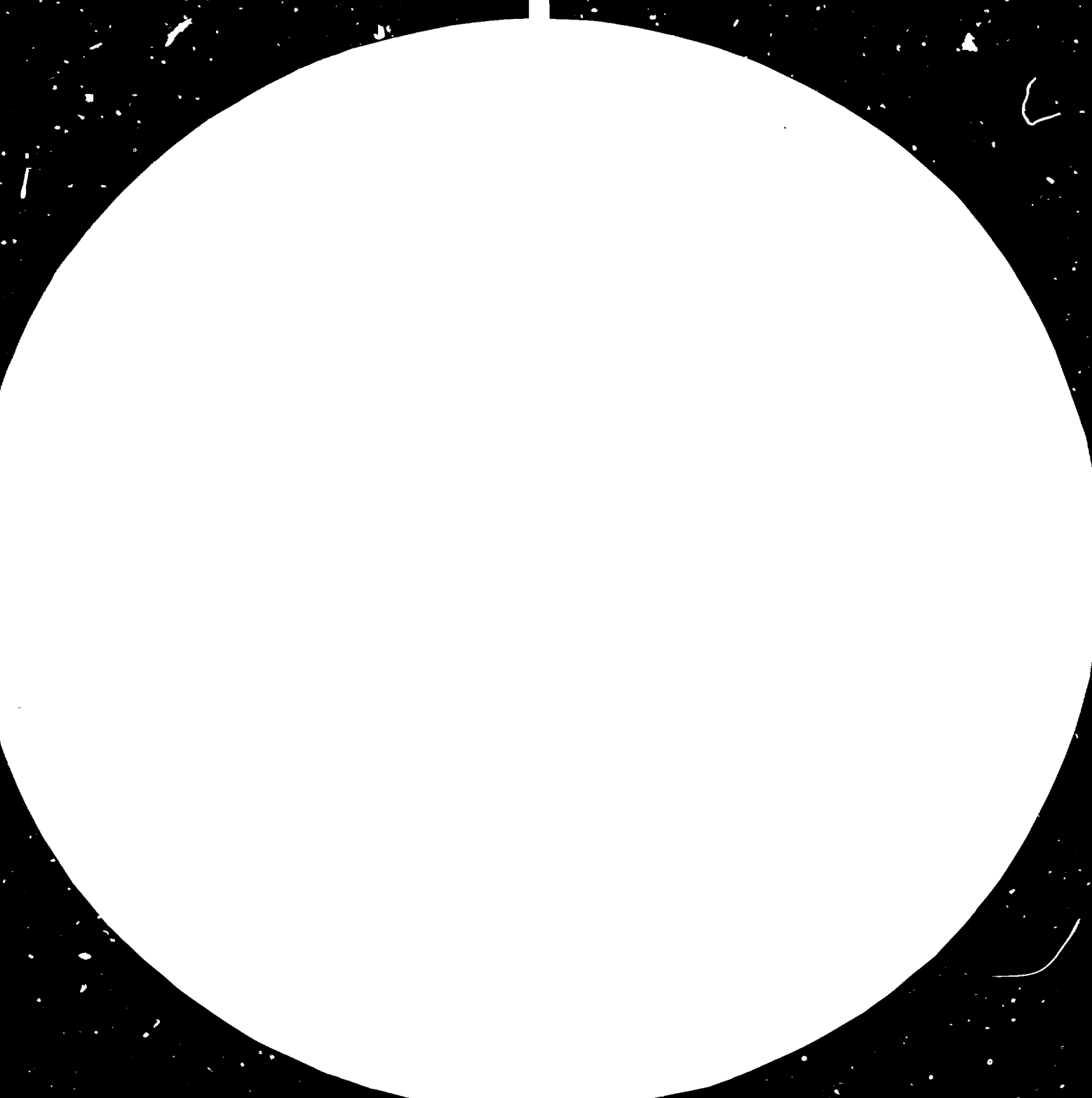
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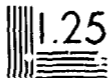
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Resolution Test Chart (NBS 1963-A)

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METALLURGICAL RESEARCH AND DEVELOPMENT IN SRI LANKA*

by

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METALLURGICAL RESEARCH & DEVELOPMENT IN SRI LANKA

The Ceylon Steel Corporation is the major centre where some research work pertaining to metallurgical aspects are carried out. This is mainly due to the nature of our infant metallurgical industry and the lack of suitable natural resources to develop and maintain an integrated steel industry. Most of the research work that was undertaken was directed towards the development of small scale processes and products to suit the local conditions. One of the major setbacks have been the difficulty in competing with the products of Multinational Companies where the scales of operation are very large. Keeping the above problems in mind I am presenting below in brief some of the Research & Development work that we have carried out which may sometime be very useful to some of the less developed among the third world countries.

1) Use of the Waste Products from the Steel Industry in order to save the environment from pollution and obtain a useful by-product

We have carried out a number of projects to use the waste materials from our steel plant and the most successful product that was developed and marketed was obtained from the pickled liquor that was a pollutant produced in the process of pickling of steel wire rod before drawing. This was earlier a great nuisance and had to be neutralized and stored in special pits to prevent it getting into the surrounding area. We have developed a process whereby this pickled liquor which is mainly chloride or sulphate of iron was converted to Iron Oxide Stains giving a range of colours from black to bright red. At present this product is marketed for local use.

2) Welding Electrodes

Our Research & Development department has developed a number of welding electrodes mainly for specialized use and at a much lower price than imported products. These are mainly used for hard facing purposes and we have recently developed a super hard type electrode for a special customer.

3) Extractions of Copper from chalcopyrite deposits found with Magnetite Ore

This work is being currently carried out by our Research & Development staff and it is expected to produce some useful parameters for the commercial exploitation of this process, in recovering copper from the large ore body found recently in the North East part of the island.

4) Production of Pig Iron in a small scale

There is a demand for Pig Iron by the local foundry industry which is now fulfilled by importation of this product.

We are developing a process for small scale manufacture of Pig Iron using a submerged arc furnace, with locally available low grade iron ore and mill scale from the rolling mill and using coconut shell charcoal as a reductant. So far results have been encouraging and the work is temporarily halted due to a break down in the furnace. This process has given a very low sulphur grade of pig iron.

5) Steel Castings

A number of development work on various steel castings have been carried out, we can specifically point out that major work was done in the development of a suitable cast grinding media balls for the local cement industry and development of various types of mould coats using local raw material.

Those who are interested in more detailed information, please contact the Ceylon Steel Corporation directly.

