

# SPOTLIGHT

## on SAIMM visit to Armscor\*

by P.W.J. VAN RENSBURG†

The Institute was privileged to receive an invitation from the Armaments Corporation of South Africa (Armscor) for members to visit one of their plants. As these are factories, the number of visitors who could be accommodated was limited. As the opportunity seldom arises to learn something of this very large industry, there was great interest among members and many were disappointed in not being able to go.

The plant visited was the Lyttelton Engineering Works, one of the many branches of Armscor, where they manufacture and service small-arms and guns. The visit began with introductions to senior staff at the plant, and continued with an excellent audio-visual presentation of Armscor, showing its beginnings, objectives, various branches, products, and achievements.

### History of Armscor

In South Africa, the production of armaments and the manufacture of explosives for military purposes grew into a substantial industry during the Second World War. Shortly after the war, a report was prepared on the country's industrial potential for warlike equipment, and a Defence procurement organization was set up. In 1953, the Defence Ordinance Workshop was started to provide a stockpile of technical information and manufacturing techniques, as well as to supply the Defence Force with

some of its munition requirements. This plant later became the Lyttelton Engineering Works. In 1964, the various organizations involved in the production and procurement of armaments were brought together under the Armaments Production Board.

This growth in the armaments industry of the country was spurred on by the drive towards an arms embargo that began soon after South Africa had waived its membership of the British Commonwealth in order to become a sovereign republic. In November 1962, the General Assembly of the United Nations requested specific measures against South Africa in respect of an arms embargo. Various steps were taken by countries that had been the main source of military equipment, and, as the arms embargo was tightened, it became imperative for South Africa, in the light of other developments in Southern Africa, to step up its own manufacturing facilities. By the end of 1977 the arms embargo had become fully effective, and South Africa was thrown on to its own resources to maintain peace and law and order, and to counter foreign penetration into Southern Africa.

In April 1977, the Armaments Corporation of South Africa Limited with its own Board of Directors came into being with the amalgamation of various organizations within the armaments-production industry, including certain strategic facilities owned by private industry.



\* Some of the facts mentioned in this Spotlight were taken from Armscor publications.

† Retired. Now at 17 Sydney Carter Street, Roosevelt Park, Johannesburg 2195.

Some of the SAIMM party who visited the Lyttelton Engineering Works or Armscor

Armcor subsidiaries now manufacture a wide range of strategic products, ranging from aircraft to small-arms ammunition. Armcor also makes use of a large number of industries in the private sector for much of its requirements, such as ships, combat vehicles, computers, radar equipment, and weapon electronics, as well as large numbers of components.

The audio-visual presentation graphically illustrated many of the highlights of Armcor's production programme, which in recent years has provided all the requirements of South Africa's armed forces. The list is long, and includes such items as heavy tanks, infantry combat vehicles, assault craft for the navy, training aircraft, highly sophisticated missiles, rocket launchers, some of the world's best heavy field guns, a vast array of ammunition of various calibres, and many more items. These programmes involve much sophisticated and costly research. In striving to attain self sufficiency in the production of armaments, Armcor has concentrated on producing equipment suited to the defence of the country's own borders. This is an expensive business, and in 1983-84 South Africa's defence expenditure amounted to 3,9 per cent of the gross national product. Armcor's turnover is in the region of 1600 million rands per annum, about half of which is expenditure in its own subsidiaries, the rest being contracted to private industry.

#### Plant Visit

On the visit through the plant, we saw the meticulous workmanship involved in the manufacture of parts for rifles, machine guns, and heavy-artillery pieces. These

components require careful design and accurate machining (in many instances with numerical-control machines and heat treatment), each step being carefully monitored to meet quality-assurance standards. Since the effectiveness of defence equipment is of vital importance, these measures are essential and do not come cheaply. The principle adopted requires that an article should be manufactured correctly the first time so that scrap is kept to a minimum. Included in the facilities of the plant are underground test ranges, where rifles and machine guns are tested and sights accurately set.

Of particular interest to the visitors were the stages in the making of the barrels for the 155 mm G5 field gun. This is a huge piece of equipment that has been widely tested in the field. It is claimed to project its large shells further and more accurately than any other field gun that has ever been produced anywhere in the world. The next step in the process will be the production of the G6, which will be the same gun mounted on a highly mobile chassis that will give new dimensions to artillery warfare.

#### Armcor's Hospitality

The visit concluded with a very pleasant luncheon at which the visitors were able to mingle with many of the senior staff of the Lyttelton Engineering Works and learn more about their production methods, which could not easily be understood from a fairly rapid tour through numerous sections of the very extensive plant. The Institute is most appreciative of the kind reception and fine hospitality provided by Armcor on this visit.

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## Underwater mining

The 16th Annual Underwater Mining Institute will be held at Halifax, Nova Scotia, Canada, from 20th to 23rd October, 1985.

The speakers will include

- Robert Layton, Canadian Minister of State (Mines)
- Joel Matheson, Nova Scotia Minister of Mines and Energy
- David Cronan, Royal School of Mines, London
- William Siapno, Deep Sea Ventures, Inc., Virginia.

The subject is Worldwide Mining Activities including presentations on Cobalt and Platinum Crust in the Central Pacific, Pilot-scale Mining in the Red Sea, and European Developments in Marine Mining; and Canadian

Marine Mining Activities, including Canadian Exploration, Mining, and Processing Technology; Canada's Shelf and Deep Water Resource, and Industry Interest and Activity in Canada.

The Institute will be followed by tours of the Bedford Institute of Oceanography, a field trip to coastal gold-placer sites, or a field trip to land-based sulphide deposits.

Registration forms are available from the following:

Helen Joseph	or Allen H. Miller
Ocean Mining Division	UW Sea Grant Institute
355 River Road	1800 University Avenue
Ottawa, Ontario	Madison, Wisconsin
Canada K1A 0E4	U.S.A. 53705
613/993-3760	608/262-0645