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The Phosphate Industry on the Postage Stamps

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A project begun in 1996 to celebrate the 100th anniversary of the Canadian Institute of Mining, Metallurgy and Petroleum, planned for May 1998, culminated in the publication of a 335-page book giving a historical background to mining and metallurgy through the postage stamps issued by many different countries around the world. This review article focuses on the stamps relating to the phosphate industry.

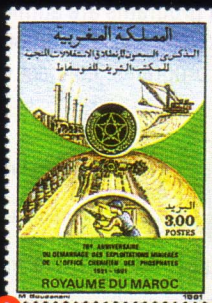
The phosphate industry in postage stamps

Postage stamps are an important means of communication and many countries have recorded important events, honoured worthy individuals, and described interesting facts through this medium. Stamps have artistic value, many having been created by artists. They are used every day, can be found everywhere, and can be a useful means of enhancing public understanding of the minerals and chemical industries. A book recently published in Canada entitled *Mining and Metallurgy on Postage stamps* includes some 900 coloured and enlarged illustrations of stamps depicting mineral resources, mining operations, mineral beneficiation,

industry minerals and metals, metallurgy, and their transportation. The stamps depicted in figures 1-9 are a selection related to the phosphate industry.

It was the German chemist, Justus von Liebig (1803-1873) who discovered that phosphorus, potassium and nitrogen are essential nutrients for plants. This is illustrated in a stamp issued in 1978 by the former German Democratic Republic on the occasion of the anniversary of his birth. The stamp (see figure 1) shows Liebig, a retort in which is inscribed the symbols of the three elements, and wheat in reference to the need of plants for these elements.

Right: Phosphate rock loading on Christmas Island. The Christmas Island operation is now owned by Christmas Island Phosphates.



Among the African phosphate rock producers, Morocco issued a stamp in 1991 to mark the 70th anniversary of the industry (see figure 2), which is in the hands of the state-owned Office Chérifién du Phosphate. From West Africa, a Senegalese stamp depicts the country's calcium aluminium phosphates mine at Pallo (figure 3).

Togo issued a series of stamps on the exploration of the local phosphate deposits in 1964 on the occasion of the fourth anniversary of the country's independence from France. One of these stamps is shown in figure 4.

Christmas Island, which lies in the Indian Ocean 320 km south of the Sundra Straits which separate the Indonesian islands of Java and Sumatra, began the exploitation of a major phosphate deposit there at the turn of the century. Production of some 600,000 t/a of rock continues today. The government of the island during the 12 months to 4 April, 1981 issued a series of 16 stamps depicting the island's phosphate industry, from surveying and drilling for samples, sample analysis, mine planning, jungle clearing, overburden removal, open pit mining, restoration, screening and stockpiling, train loading, riling, drying in rotary kiln, conveying, bulk storage, to ship loading.

Among the Pacific Ocean's Gilbert and Tuvaluan Group of Islands (formerly Gilbert and Ellice Islands) which lie some 3,200 km northwest of Queensland, Australia, Banaba, or Ocean Island as it was formerly known, began exploiting its phosphate deposit at the turn of the century, although the reserves

there are now exhausted. On 1 August, 1956 the island issued a stamp depicting a ship loading local phosphate rock (see figure 5).

Some 245 km due west of Banaba, lies the island of Nauru, where phosphate deposits were discovered in 1900 and where almost half a million tonnes of rock are still produced annually. Two stamps issued by the Nauru Island Government on 3 July, 1990, show the early phosphate mining methods on the island and today's mechanised operation (see figure 6).

The Palau Islands are another small Pacific Ocean group that have been producers of phosphate, and which have issued a stamp commemorating the industry. The islands form part of the Trust Territory of Pacific islands, commonly known as Micronesia, some 1,000 km north of Papua New Guinea. The islands were held by Germany before World War I, then by Japan, and finally came under US occupation during World War II. Palau was an important source of phosphate supply for Japan until 1944 and a stamp (see figure 7) shows wagons loaded with phosphate at the Angour island mine with a Japanese stamp inset during the occupation. Mining on Angour was resumed in 1946 and continued until 1955 when the deposit was reported to be exhausted.

A stamp (see figure 8), issued on 21 January, 1988 commemorates phosphate exploitation in the Netherlands Antilles, which began in 1912. The more important deposits were on the islands of Aruba, Klein Curaçao and Curaçao, but exploitation has ceased as the deposits became exhausted. ■

Mining and Metallurgy on Postage Stamps by Fathi Habashi (Professor of Extractive Metallurgy at Laval University, Québec, Canada); David G. Hendricker (Professor of Chemistry at Ohio University, Athens, USA); and Claude Gignac (Chemist, Mining Division, Ministry of the Environment of Québec) is published by Métallurgie Extractive Québec (June 1999). With 335 pages and about 900 enlarged colour reproductions of stamps from different countries, the book is priced at Can\$250 + postage and distributed by Laval University Bookstore "Zone". Pavillon Maurice Pollack, Cité Universitaire, Sainte Foy, Québec, Canada G1K 7P4.
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Stamps shown below:

- 1 Former German Democratic Republic
- 2 Morocco
- 3 Senegal
- 4 Togo
- 5 Gilbert and Tuvaluan Group of Islands
- 6 Nauru: Early phosphate mining methods (left) and today's mechanised operation (right)
- 7 Palau Islands
- 8 Netherlands Antilles



Stamp reproductions courtesy of Fathi Habashi