

THE MINERAL INDUSTRY OF

NAURU

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The 21-square-kilometer island of Nauru has the last active mine of three historic phosphate-producing islands of the Pacific. The other two were Banaba, formerly known as Ocean Island, in the Gilbert Islands group in the Republic of Kiribati and Makatea in French Polynesia. Nauru has been the sole Pacific Island producer since 1979 when the reserves on Banaba were depleted. The phosphate deposits on Makatea were depleted in 1966.

The Nauruan economy is based on the mining and export of rich phosphate rock, virtually the island nation's only natural resource. The country's gross domestic product varies accordingly with the world market price of phosphate.

The Government-owned Nauru Phosphate Corp. (NPC) mines all of the island's production of phosphate rock from its surface mine on the central plateau in the island's interior. NPC mines the phosphate rock from deposits interdigitated with evenly spaced dolomitized coral limestone pillars using mechanical extractors with clamshell buckets, leaving the coral as a "forest" of very hard rock pinnacles. All phosphate rock production is exported and the associated coral is used domestically for road aggregate.

Following the removal of overburden by bulldozing, the alluvial phosphate rock is removed from around the coral pinnacles, trucked to a railhead for primary crushing, and reduced to minus 50 millimeters (mm). A narrow-gauge railway using diesel locomotives transports the crushed material to a treatment plant where it is dried before further crushing to minus 12 mm and sold as run-of-mine product (Douglas and Douglas, 1989). A proportion of the fine material may be upgraded, if warranted by market demand, by high-temperature calcination to remove organic carbon and

marketed as Nauru Calcined Rock (Griffiths, 1994). Phosphate reserves on the island are expected to be depleted by about 2003 or 2004 (Fraser, 1999).

In 1999, the Government plans to launch, under the auspices of the Nauru Rehabilitation Authority, a program to reclaim the areas devastated by nearly a hundred years of phosphate mining on the island (Islands Business, 1999). Reportedly, Australian experts concluded in a 1994 report that the rehabilitation was technically feasible and would cost \$210 million over a 23-year period (South Sea Digest, 1999).

References Cited

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Major Source of Information

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TABLE 1
NAURU: PRODUCTION OF PHOSPHATE ROCK 1/

Commodity 2/	1994	1995	1996	1997	1998
Phosphate rock thousand metric tons	613	496	510	491	487

1/ Includes data available through September 1, 1999.

2/ In addition to the commodity listed, crude construction materials (common clays, sand and gravel, and stone) are produced, but output is not reported quantitatively, and available general information is inadequate to make reliable estimates of output levels.