

# THE MINERAL INDUSTRY OF

# FIJI

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Metallic mineralization is widespread in Fiji, occurring as polymetallic base metal sulfide deposits, disseminated porphyry copper deposits, epithermal precious-metal deposits, residual bauxite deposits, and manganese and heavy-mineral sand deposits. However, gold along with associated silver was the only mineralization mined during 1996. Fiji's mineral industry also consists of a cement plant next to the harbor at Suva, and several quarries for the production of crushed gravel and stone, limestone, and coral and river sands. The cement plant, opened in 1961 by Fiji Industries Ltd., had been the region's only producer until 1993, when cement production began at Lae in Papua New Guinea by PNG-Halla Cement Pty. Ltd.

Although gold has been produced in Fiji since shortly after its discovery, the only significant mines until 1995 have been the Emperor Mine and the Tavua Basin Mine, both owned and operated by the Emperor Gold Mining Co. Ltd. (EGM). The Emperor Mine is adjacent to the town of Vatukoula, meaning "Rock of Gold," about 100 kilometers (km) northwest of the capital at Suva and 8 km inland from the coast, in the Nakauvadra Mountains at the northern tip of the main island of Viti Levu. The Tavua Basin Mine is inland from the coastal town of Tavua, about 2.5 km south of the Emperor Mine. The Emperor Mine has been in continuous production since 1935, while production from the Tavua Basin Mine began in 1987. Both mines also produce byproduct silver. The Emperor Mine also recovered until 1980 significant amounts of selenium and tellurium oxides from the ore. Mount Kasi Ltd., a wholly owned subsidiary of Australia's Pacific Islands Gold NL, began production late in 1995 at its Mount Kasi gold project at Savusavu near the Yanawai River on the south coast of Vanua Levu, Fiji's second-largest island. The first year's production of about 1,100 kilograms exceeded estimated projections by more than 10%, and production was on schedule to meet planned increases to about 1,500 kilograms per year (kg/yr) of gold within the first 3 years of the mine's 9-year life. Reportedly, the project has the potential to continue for 20 years. It was at the Mount Kasi site that gold was first found in Fiji, in 1929. Production at Mount Kasi began in the early 1930's, continuing until the mine was closed in mid-1943. There are numerous other occurrences and prospects for gold throughout Fiji, including Colo-I-Suva, Dakuniba, Faddy's, Kingston, Mistry, Vuda, Waimanu, Waimotu, Wainadoi, and Wainivesti, but none currently is considered economic, even though some may have been sites of historical, though limited, production. (Mineral Resources Department, 1996).

At yearend, EGM reported the discovery of a major high-grade gold ore body at its Vatukoula underground mine,

reportedly worth about US\$81 million at then current gold prices. The discovery was estimated to be 590,000 metric tons (t) of ore at an average grade of 12 grams per metric ton (g/t) gold, 5 g/t higher than the average gold content at the mine. The ore body was assessed as a major but unexpected discovery that would accelerate mining expansion, improve long-term prospects at the mine, and extend production by at least 5 years (South Sea Digest, 1997b). Additionally, as part of a US\$30-million plan to increase gold production, from the current 3,800 kg/yr to 6,200 kg/yr by 2000, and lengthen the mine's life by about 20 years, EGM invested more than US\$3.5 million during the year in its company-owned electricity station (South Sea Digest, 1997a).

Australian gold explorer Kilkenny Gold NL was granted in midyear a special prospecting license targeting epithermal gold deposits on Fiji's Nairai Island, a 24-square mile island 105 km distant from Suva having similarities in structure, caldera size, and age to Lihir Island in Papua New Guinea. Previous work in the 1980's located anomalous arsenic, gold, mercury, and other values in soil and rock chips, but no drilling has been done on the island (South Sea Digest, 1996b).

Sydney, Australia-based Placer Pacific Ltd.'s local subsidiary, Placer Pacific Namosi Ltd., was seeking a joint-venture partner to share exploration-development costs of its US\$1.1-billion low-grade porphyry copper-gold prospect at Namosi, about 30 km northwest of Suva and 20 km from the coast. In midyear, Placer Pacific Namosi was negotiating among five different groups. Placer Pacific Namosi and its predecessors previously have delineated 930 million tons of measured resources grading 0.43% copper and 0.14 g/t gold using a cut-off grade of 0.3% copper since 1991. Although the resource is large, it still is considered to be subeconomic due to the low grades of copper and gold (South Sea Digest, 1996c).

Winstone Aggregates Ltd., a subsidiary of New Zealand's Fletcher Challenge Ltd., opened in midyear a US\$2-million quarry at Navua as part of a plan for an integrated cement, concrete, and aggregates industry in Fiji. Winstone owns Metromix Concrete Co. Ltd. which has plants at Ba, Lami, Nadi, and Sigatoka (South Sea Digest, 1996a).

## References cited

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- South Sea Digest, 1996a, Mining: August 23, 1996, v. 16, no. 12, p. 4.
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**Major Source of Information**

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TABLE 1  
 FIJI: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity		1992	1993	1994	1995	1996 e/
Cement, hydraulic		84,400	79,500	93,600	91,200 r/	92,000
Gold, mine output, Au content	kilograms	3,701	3,784	3,440	3,477 r/	4,790 2/
Silver, mine output, Ag content	do.	1,258	1,112	1,386	1,572 r/	1,800
Stone, sand and gravel:						
Coral sand for cement manufacture		61,465	65,303	66,939	70,000 e/	70,000
River sand for cement manufacture e/		20,000	13,186 2/	15,000 2/	15,000	15,000
River sand and gravel, n.e.s.	cubic meters	73,395	426,880	148,049	200,000 e/	200,000
Quarried stone	do.	63,412	84,670	63,154	70,000 e/	70,000

e/ Estimated. r/ Revised.

1/ Table includes data available through Mar. 3, 1997.

2/ Reported.