

FIJI

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Fiji's economy appears to be back on track with an estimated GDP growth of 4.1% for 2003 compared with 4.4% in 2002. This year, the economy is forecast to grow by 5%. Tourism continues to dominate Fiji's economy, followed by sugar, with strong contributions from gold, garments, fish and timber.

Although Fiji's geographical location and geology imply a potential to host major porphyry systems, epithermal gold and base-metals mineralisation, exploration in recent years has stagnated because of political problems and prevailing low world commodity prices, particularly for gold. The situation has not been helped by short-term variations in the fiscal conditions relating to mining in Fiji. These aspects are now being addressed through a major review of legislation and investment regimes backed by better promotion strategies over 2004-2006.

During 2003 the exploration sector showed some improvement, largely as a result of the resurgence in the price of gold to above US\$350 /oz. This attracted more exploration companies to invest in Fiji, but perhaps the best indication of a return of confidence was the attempt to meet exploration commitments.

Total exploration spending during the year was approximately F\$6.0 million (US\$6.6 million in 2002), and a significant proportion of this sum was spent by Nittetsu Mining Co Ltd at its Namosi porphyry copper-gold prospect.

Emperor Mines Ltd continued to operate Fiji's only gold mine and recorded total production for the calendar year of 122,087 oz of gold and 46,612 oz of silver, with a combined total value of F\$72.8 million (F\$82.5 million in 2002). Emperor continued its programme to expand infrastructure at the mine, with the aim of accessing additional resources and improving working conditions at depth.

Exploration

Companies undertaking exploration for minerals, hydrocarbons and geothermal energy during 2003 included: Emperor Mines Ltd, Nittetsu Mining, Wing Investment, Asia Pacific Resources, Burdekin Pacific Resources, Geopacific Ltd, Chameleon Mining NL, Oribi, Climax, Algen, Aurum Exploration, Beta, A Tora and Bali Hai. Dampier Oil Ltd of Australia was granted oil exploration licences over offshore areas of Fiji in 2002 but relinquished its holdings at the end of 2003.

At the end of 2003, there a total of 38 exploration licences were held (41 in 2002), and the total area covered was 410,019 ha (317,784 ha). The total

exploration expenditure during the year is estimated to have been slightly over F\$6.0 million, compared with F\$6.6 million in 2002. (Table 1)

Base metals

At Namosi, Nittetsu Mining Co Ltd continued its exploration programme which is targeted at identifying additional copper and gold mineralisation. The company continued evaluating the known copper/gold resources in the Waisoi area at the Waisoi East and Waisoi West deposits. Apart from Waisoi, other hot spots for porphyry copper deposits are located at Waivaka, Wainabama and at a number of polymetallic veins and skarns systems are also developed peripheral to the main prospects.

Since its exploration programme commenced three years ago, Nittetsu has spent close to F\$11.3 million, aimed mainly at adding to the known Waisoi resources. During 2003, the exploration programme included extensive diamond-drilling, with ten completed drill holes at Waisoi East and West for a total core length of some 3,200 m.

The drilling was designed to follow up geological data from previous drilling and geophysics, and to confirm that the distribution of mineralisation ore deposits controlled by geological-structures. Nittetsu plans to inject additional funds for further drilling and evaluation of the viability of the project, ahead of a prefeasibility study.

Asia Pacific Resources (APR) continued negotiations for a small-scale mining venture at the old Wainivesi mine to the north-east of Suva. The company held meetings with landowners and government relating to its Mining Lease (ML) application, which is now being processed, and has submitted a draft Environmental Inception Assessment Report (EIA) for government approval. The oxide ore zone at Wainivesi is estimated to contain 100,000 t averaging 1.5 g/t Au, and the indicated resource of primary ore has been estimated at 107,000 t averaging 2.6 g/t Au, 90 g/t Ag, 1% Cu and 12% Zn.

Gold

Emperor Mines Ltd operates Fiji's only operating gold mine and owns exploration licences adjacent to the mine lease and elsewhere in Fiji, including the Tuvatu gold prospect near Nadi International Airport. There was an active exploration programme during the first six months of 2003. Thereafter, activity was reduced and by the end of the year all exploration work was suspended as a result of cash-flow problems. Work was centred on Tuvatu, Tavua Basin and adjacent to the mining areas, and included drilling, soil sampling, detailed aeromagnetic surveying and data interpretation. Exploration drilling was focused on surface drilling, targeting the extension of the Prince William flatmake at depth. A total of 1,271 m was drilled from the SPL1201 exploration licence area, and 2,588 m within the mining leases. Significant drill core sample results were obtained included drill hole GSE 160 intersected the Prince William Flatmake at 399.1 m and returned a value of 9.3 g/t Au over a true width of 1.38 m. Footwall structures were also intersected at 419.5 m and 423.1 m. Hence, these structures have indicated

encouraging gold values of 6.4 g/t Au over 0.80 m (true width) and 7.4 g/t Au over 0.85 m (true width) respectively.

Regional geochemical soil sampling continued around the southern caldera margin and along the eastern extension of the Homeward Bound fault system. An encouraging number of anomalies were defined warranting follow-up sampling. A low level detailed aeromagnetic survey comprising 2,469 line km was flown over SPL1201 and the mining leases. A number of key target areas were located and follow-up ground reconnaissance is planned.

At Tuvatu, major geological mapping, soil sampling, and trenching programmes were conducted during the year. A total of 150 rock-chip samples, 194 channel samples, 12 float samples and 92 composite soil samples were collected for geo-chemical analysis. The work succeeded in locating new mineralised veins and additional extensions to known structures. Significant results included channel samples across the strike yielding between 30 g/t Au and 294 g/t Au over widths ranging from 0.15-0.30 m. At the Ura and Jomaki Ridge prospects, trench samples returned 8.4 g/t Au to 102 g/t Au over widths of 0.15-0.50 m. Regional soil sampling defined several new mineralised areas, and off-lease spending increased to F\$829,000, from F\$334,000 in 2002.

In Vanua Levu (Mt Kasi), Burdekin Pacific Resources's activities continued to be limited to essential care and maintenance. The company had its mining leases renewed for a minimum of five years to enable the company to raise funds from the stock market for a major drilling and feasibility study. Towards the end of the year, the company had raised sufficient funds to commence a major drilling programme in 2004. This is intended to improve the overall confidence in, and understanding of, the resources, better define the potential high-grade zones and target lateral and depth extension of the main ore/body. The programme should also provide a clearer picture for the scope of new mine development. Mt Kasi has an estimated gold resource of over 300 000 oz and ceased operating in 1998. The high-sulphide, epithermal-type deposit is hosted by basaltic volcanic flows and breccias intruded by andesite/dacite plugs, and the mineralisation occurs in NNW-trending structures within the so-called Mt Kasi fault corridor.

Southwest of Nadi at the Nabila and Kakavukavu gold prospects, Millennium Mining Fiji Ltd continued exploration and undertook an extensive drilling programme to test the underground structures (fault zone). The first two drill holes intersected a mineralised fault zone at a depth of 100 m. However, owing to unforeseen issues with the landowner, drilling has been suspended indefinitely.

Mining operations

Emperor Mines recorded a 13% fall in gold production in 2003 (Table 2), and the combined output of gold and silver amounted to 168,699 oz, valued at F\$72.8 million. Output was lower primarily because of unforeseen geological and technical problems. The production problems, coupled with accounting adjustments related to a restructuring of the company's gold forward hedge

position, resulted in an operating loss of A\$15.5 million compared with an after-tax profit of A\$2.5 million in the preceding year. Emperor is undertaking a major restructuring and a two-phase expansion programme, and capital spending is set to double in 2004 to a projected A\$22.0 million.

Gold is sourced from four main production sections: Smith Shaft, R1/Cayzer Shaft, Philip Shaft and the Emperor Decline. Smith Shaft produced 33% of the total production (to June 30 2003) and possesses 21% of the mine reserves. It produced 145,884 t (184,581 t) averaging 8.95 g/t Au for 37,378 oz of contained gold. Underground capital development drilling during the year amounted to 4,654 m (4,488 m in 2002) and targeted the main mineralised structures, including the Matanagata flatmake, the Dominion Fault, the Shatter Shear and Gold Cross.

A total of 520 678 t of underground ore (547 702 t in 2002) were treated at a head grade of 7.6 g/t Au (8.4 g/t Au in 2002). Both tonnage and grade were lower, compared with 2002, down by 3.3% and 9.7% respectively. Metallurgical gold recovery was little changed from 2002, at about 89% although the milling process was improved by maintaining a fine grind size, and there was better control of the flotation technology. As at June 30, 2003, Emperor's underground hard rock resources totalled 12.3 Mt averaging 10 g/t Au, including reserves of 2.7 Mt at 9.8 g/t Au. The reserves decreased by 17% for the year but the identified total resource was 14% higher, with an overall increase of 11% in contained ounces.

Emperor has embarked on what is perhaps its most serious expansion programme in its 70-year history, the aim being to raise output and extend mine life. The five-year plan envisages increasing mill production efficiency from about 1,500 t/d to around 2,200 t/d by 2004/2005. In the current phase, mill capacity is being raised by 40% to 800,000 t/y and gold production by approximately 35% to 180,000 oz/y. The company also aims to achieve significant results from surface and underground drilling, together with additional underground development and exploration. Thus far, accomplishments include: raise boring two additional two ventilation shafts; installing and commissioning an underground refrigeration unit; installing an upgraded winder and double-deck cage; replacing ageing underground heavy vehicles; connecting the decline between R1 and R12 levels; and 4,901 m of development.

Bauxite

Bauxite occurs at a number of localities in Fiji, usually in the form of gibbsitic nodules in lateritic clay, the most important deposits being in western Vanua Levu. The interest shown by Aurum Exploration in northwest Vanua Levu has resulted in the company extending its area of exploration. Work during the year included delineating the extent of the bauxite at Nawi West, completion of mineralogical studies and the negotiation of a drilling budget for additional studies.

Marble/Limestone

Prospecting for industrial minerals (marble) by Wing Investment has continued in the upper Sigatoka Valley for the past two years. During 2003, the company conducted a drilling programme to test the thickness, and quality of marble at the Qalimare deposit. The company completed five drill holes confirming the Qalimare deposit to be of high grade.

Hydrocarbons

Dampier Oil reduced its interest in oil exploration. A total of seven licences (OEL) were granted initially but Dampier had relinquished all but two by March 2003 covering an area of 153 327 km². No major work activities apart from a detailed analysis of existing reports and geophysical data were undertaken. Work was confined to the Bau and Blight waters areas and, by year-end, the company had advised of its intention to surrender its two remaining OELs.

Aggregates

Since 2002, there has been great interest in quarrying and mining alluvial deposits for aggregates owing to strong demand by the building and road construction sectors.

Co operative projects

A joint Fiji-Japan co operative project for environmental baseline studies for mineral exploration in southern Viti Levu commenced in 2002 and was completed in 2003. It covered an area of 4,000 km² and work activities included hydrological and climatological investigations, stream-sediment surveying, and studies of the fauna/flora, and archaeological sites. Stream sediment and water samples were analysed for between 35 and 26 elements. The project should assist in the identification of geochemical anomalies and serve as a baseline to monitor the surface impact of mineral exploration and future mine or other similar developments.

Exchange rate as at April 4, 2004: F\$1.00 = US\$ 0.5749.

Table 1:Exploration tenements

Year	Expenditure F\$ (million)	Area (‘000 ha)	Licences Number
1997	12.11	490.8	39
1998	4.13	586.6	49
1999	4.02	374.5	35
2000	2.5	217.7	33
2001	3.97	329.9	39
2002	6.6	317.8	41
2003	6.0+	401.0	38

Table 2: Production Statistics

	1999	2000	2001	2002	2003
Emperor Gold Mining:					
Ore treated (t)	509,242	568,903	520,903	547,702	520,903
Gold produced (kg)	3,881	3,841	4,907	3,971	3,925
Silver produced (kg)	2,159	1,474	2,109	1,972	1,304