

# THE MINERAL INDUSTRY OF NEW CALEDONIA

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The mineral industry in the French Territory of New Caledonia and Dependencies continues to be dominated by the mining of nickeliferous laterite-saprolite ore; production of ferronickel of various commercial grades; and of matte containing 75% nickel at the Doniambo smelter in Nouméa, the territorial capital. New Caledonia is the largest producer of ferronickel in the world and the fourth largest producer of mined nickel after Canada, Russia, and Indonesia (Mining Journal, 1997c). Nickel is the territory's most important commodity, accounting for an estimated 7% to 10% of its gross domestic product (Pacific Islands Monthly, 1997) and about 80% of total exports. Construction materials are produced in New Caledonia from several pit and quarries, and Société des Ciments de Numbo operates a cement plant at Nouméa.

Société Métallurgique le Nickel (SLN), a 90%-owned subsidiary of Metropolitan France's Eramet, with Japan's Nisshin Steel Co. owning the remaining 10%, mines nickel ore from several operations on the main island of New Caledonia, La Grande Terre. Most of SLN's production is derived from the two mining centers of Kouaoua and Thio on the east coast; the two mining centers of Kaala-Gomen and Népoui-Kopéto on the west coast; and at contractor-operated mines operated by Société Minière Georges Montagnat SA at the Karembe and Tontouta mining centers on the west coast. Remaining mine production is from smaller, independent operators, including JC Berton Mines, Nickel Mining Corp., Société des Mines de la Tontouta (SMT), and Société Minière du Sud Pacifique (SMSP), with open pit mines at Boakaine, Karembe, Kouaoua, Moeno, Nakety, Ouaco, and Tontouta.

SLN's nickel ore production is concentrated and primarily used as feed at the Doniambo smelter for the production of ferronickel ingots and matte, with minor amounts exported to Japan. Most of the ferronickel production is shipped to consumers in Australia and Japan, and all matte production is shipped to Eramet's refinery at Sandouville, near Le Havre in northern France, for further processing into high-purity electrolytic nickel and nickel salts. Minor amounts of cobalt also are recovered as a component of the matte during refining. Mine output from the independently operated mines is mainly for export to QNI Ltd.'s Yabulu nickel refinery near Townsville, Queensland; Japanese nickel smelters and refiners; and the Glenbrook ferronickel smelter near Riddle, Oregon. Some of the independently produced output also is used to feed the Doniambo smelter.

Following a detailed feasibility study completed in March 1997, Inco Ltd. of Canada proceeded during the year with plans for a \$50-million, 12-metric-ton-per-day integrated pilot plant at its 85%-owned Goro lateritic nickel-cobalt project in preparation for eventual construction of a commercial-scale smelter. France's Bureau de Recherches Géologiques et Minières owns the remaining 15% interest in the joint venture. At yearend, Inco announced the start of construction, beginning in January 1998, of the new-technology pilot

facility at Goro, about 80 kilometers north of Nouméa (South Sea Digest, 1998). If successful, the plant will be the prototype for development of a 30,000-metric-ton-per-year (t/yr) nickel-cobalt operation, producing 27,000 t/yr nickel and 2,700 t/yr cobalt by 2002, with a possible upgrading to 60,000 t/yr if further engineering studies warrant (Mining Journal, 1997b).

The Board of Directors of Eramet, 55% owned by the French Government, agreed in December to the proposal endorsed by the French Government to exchange mining titles in SLN's Koniambo nickel area in the northern part of La Grande Terre for titles held by SMSP in its Poum nickel field in the southern part of the island. The approval will open the way for the locally owned SMSP, along with Canada's Falconbridge Ltd., to build a 54,000-t/yr ferronickel plant in the north of the island. The titles to the nickel reserves to be exchanged are to be held by an ad hoc body until a final decision to build the plant is made and implemented. According to the agreement, which had not been finalized and signed by yearend, Eramet is to be compensated for the exchange, since the volume of the Poum reserves is about one-half that of Koniambo's; the level of compensation is to be determined by international experts in conformity with market rules (Metal Bulletin, 1997).

SLN announced at yearend 1997 that its Doniambo smelter had returned to operating at its full capacity of 56,000 t/yr, a goal it had been trying to achieve since October when a political blockade of its mines began. The blockade, by activists from a proindependence movement who wanted to promote their campaign to build a second nickel smelter in the north of La Grande Terre, prevented ore shipments from reaching the smelter (Mining Journal, 1998). As a result, SLN declared force majeure in November. An industrial dispute at SLN's Noumea port facilities continued the force majeure into December when miners began demanding layoff pay for the days lost while they were prevented from working during the earlier political blockade (Mining Journal, 1997a). Production resumed at all of SLN's nickel mines by mid-November (Reuters Ltd., Eramet says all Caledonia mines restarted, accessed November 18, 1997, at URL [http://biz.yahoo.com/finance/971117/eramet\\_ermt\\_pa\\_says\\_1.html](http://biz.yahoo.com/finance/971117/eramet_ermt_pa_says_1.html)).

QNI purchased near yearend a 60% interest in the French-owned company SMT that operates a lateritic nickel mine at Tontouta on La Grande Terre's east coast. The purchase agreement was made in December 1996, but approval of the French Government was necessary prior to proceeding (South Sea Digest, 1998).

Stocks of chromite concentrate, produced at Chromical S.A.'s Tiebaghi Mine in the northern part of the island, continue to be exported. The Tiebaghi Mine proper was closed permanently in 1992.

Total proven and probable nickel reserves in New Caledonia are 1 million metric tons (Mt) of contained nickel in ore grading greater than 2.7% nickel, with an additional 1 Mt of contained nickel in ore

grading 2.5% to 2.7% nickel. These are considered sufficient for at least 40 years of mining at current rates.

In addition to abundant resources of nickel ore, estimated to be 25% to 40% of the world's (Pacific Islands Monthly, 1997), the island territory is well endowed with other minerals. Significant prospects have been reported for antimony, copper, gold, iron ore, lead-zinc, manganese, and phosphate rock. None of these, however, has been mined commercially.

### References Cited

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Pacific Islands Monthly, 1997, The French attraction—Nickel wealth in the Pacific: Pacific Islands Monthly, v. 67, no. 5, p. 33.

South Sea Digest, 1998, Mining: South Sea Digest, v. 17, no. 21, January 16, p. 3.

### Major Source of Information

Le Service des Mines et L'Energie  
Nouméa, New Caledonia

TABLE 1  
NEW CALEDONIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1993	1994	1995	1996	1997 e/
Cement e/	90,000	90,000	100,000	100,000	100,000
Cobalt, mine output: e/					
Co content	6,000	6,000	6,000	6,000	6,000
Recovered	800	800	800	800	800
Nickel:					
Ore:					
Gross weight thousand tons	5,599	5,729	7,068	7,275 r/	6,400
Ni content	97,092	97,323	121,457	124,800 r/	110,000
Metallurgical products:					
Ferronickel:					
Gross weight e/	147,400 r/	157,952 r/	168,800 r/	169,000 r/	168,800
Metal content (nickel plus cobalt)	36,850	39,488	42,200	42,200	44,300 3/
Nickel matte:					
Gross weight e/	19,800	19,400	18,500	16,800	18,500
Metal content (nickel plus cobalt)	10,883	10,641	10,143	9,850	10,150 3/

e/ Estimated. r/ Revised.

1/ Table includes data available through April 15, 1998.

2/ In addition to the commodities listed, crude (unspecified) and crushed stone, construction sand, and silica sand for metallurgical use are produced, but there is insufficient data to make reliable estimates of quantities.

3/ Reported figure.