THE MINERAL INDUSTRY OF

NEW CALEDONIA

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The French Overseas Territory of New Caledonia and Dependencies lies about 2000 kilometers (km) east of Queensland, Australia. It consists of the 400-km-long main island of La Grande Terre, which is one of the largest islands in the Pacific Ocean, the archipelago of Iles Loyauté (Loyalty Islands), and numerous small, sparsely populated islands and atolls. Rugged mountains divide the northwest from the southeast of La Grande Terre. New Caledonia covers 19,060 square kilometers (km^2), of which 18, 575 km^2 is land. The territory has three provinces—Iles Loyauté, Nord, and Sud (U.S. Central Intelligence Agency, 2001§[1]).

In 2001, the mineral industry of the territory was dominated by the mining of nickeliferous laterite-saprolite-limonite and garnierite ores and the production of ferronickel of various commercial grades and nickel matte at the 60,000-metric-ton-per-year (t/yr)-capacity Doniambo Smelter in the harbor of Nouméa, which is the territorial capital. The products of the Doniambo plant consisted of 80% ferronickel and 20% matte. The ferronickel was used in making stainless steel, and the matte was shipped to Eramet Group's La Havre-Sandouville Refinery at Sandouville, 15 km from La Havre in the north of France, for conversion into high-purity nickel metal and salts of nickel and cobalt (Eramet Group, undated§). The Doniambo Smelter was operated by Société le Nickel (SLN), a consortium of France's Eramet (60%); STPCI (30%), a public company that represented the interests of the indigenous peoples of New Caledonia (Mining Journal, 2001b); and Japan's Nisshin Steel Co. (10%) (Resource Information Unit, 2002, p. 13). New Caledonia was the world's fourth largest source of nickel ore, after Russia, Canada, and Australia (Kuck, 2002) and the largest ferronickel producer in the world (Resource Information Unit, 2001, p. 129).

The nickel industry, which included cobalt as a byproduct as well as nickel mining and ferronickel and nickel matte from smelting, was the mainstay of New Caledonia's economy. The industry accounted for about 10% of New Caledonia's gross domestic product and contributed an estimated 80% to foreign exchange earnings (Mining Journal, 2001b; Mbendi, 2001§). New Caledonia has about one-quarter of the world's lateritic nickel resources, or about one-sixth of the global land-based nickel resources when sulfides are included (Australian Journal of Mining, 2001). The dominance of the nickel industry in New Caledonia notwithstanding, the territory also has large deposits of iron ore and manganese. Additionally, there are deposits of antimony, copper, gold, lead, mercury, and silver. Caledonian Pacific Minerals NL has acquired virtually all the known gold and base-metal properties and continued with its exploration (Resource Information Unit, 2002, p. 12).

On La Grande Terre, SLN mined nickel ore from five open cut operations—Etoile du Nord (280 km northeast of Nouméa), Kouaoua (140 km north-northwest of Nouméa), Népoui-Kopéto (250 km northwest of Nouméa), Thio (120 km northwest of Nouméa), and Tiébaghi (320 km northwest of Nouméa). Output from these mines was exported to Australia and Japan and supplied feed to the Doniambo Smelter. Additional production was from another open cut at Kouaoua that was operated by Société Minière du Sud Pacifique S.A. (SMSP). SMSP also was producing from the Boakaine Mine (150 km northwest of Nouméa). SMSP's ore was used as feed for BHP Billiton Ltd.'s Yabulu Refinery in Townsville, Australia, which was operated by BHP Billiton's wholly owned subsidiary QNI Pty. Ltd.

Nickel ore was mined by removing the tops and flanks of the laterite-rich deposits that compose ultramafic rock; it was then trucked, piped, or moved on cableways to coastal ore stockpiles. At the Thio Mine, however, the ore was trucked or moved by cableway to coastal stockpiles, then loaded onto barges, and tugged to be loaded by buckets onto 20,000- to 25,000-metric-ton ore carriers for either export to Australia or Japan or transport to the Doniambo Smelter. The cargo vessels were loaded directly from conveyor belts that ran on sea gantries (Resource Information Unit, 2000, p. 26).

In 2001, a $180 million program to increase the production capacity of SLN's Doniambo Smelter by 25%, to 75,000 t/yr from 60,000 t/yr, was launched (Eramet Group, 2002). The expansion was to include the replacement of one of three existing furnaces at the smelter and improvement of the Tiébaghi Mine with an upgrade of the mining method based on systematic and accurate surveys of the deposit, computer modeling of the site, and an extraction method adapted to particularly damp ground. The planned target date for completion was 2006 (Resource Information Unit, 2002, p. 153).

In April, following recent approval of its bankable feasibility study, the Western World's largest nickel producer Canada's Inco Ltd. announced that it would proceed with construction of the $1.4 billion Goro nickel-cobalt project. The fully integrated mining and processing facility to be built at the southern tip of La Grande Terre was planned to have capacity of 54,000 t/yr of nickel and 5,400 t/yr of cobalt (Inco Ltd., 2001).

In July, Moscow-based Norilsk Nickel Mining and Metallurgical Co. agreed to start earning an interest in the existing joint venture of Perth (Australia)-based Argosy Minerals Inc. and Nouméa-based Société des Mines de la Tontouta partnership by completing a $15 million bankable feasibility study of the high-grade Nakety-Bogota nickel-cobalt laterite project (Mining Journal, 2001a). This agreement was

[1]References that include a section twist (§) are found in the Internet References Cited section.

the first that moved Norilsk outside Russia to bolster its nickel reserves (Metal Bulletin, 2001b). In October, the new tripartite venture was signed. Norilsk could earn up to a 90% equity interest. It was to reimburse Argosy 45% of its sunk costs ($7.166 million) to date, earning 45%; thereafter, Norilsk could earn an additional 45% by completing the bankable feasibility study within 2 years (Resource Information Unit, 2002, p. 152).

With the news of nickel mining-smelting expansion in the air along with nickel's very important role to the economy, New Caledonia hosted its inaugural nickel conference at Nouméa in midyear. Additionally, the Government of the French Pacific Territory also affirmed its support for the industry by unanimously creating tax holidays for overseas investors. The policy established a 100% tax break for the first 15 years of production and a 50% tax reduction for the following 5 years (Metal Bulletin, 2001a).

In addition to abundant resources of nickel ore, the island territory also has potential to develop its volcanogenic copper, gold, lead, silver, and zinc sulfide deposits as well as its porphyry copper deposits. Significant prospects also have been reported for antimony, iron ore, manganese, and phosphate rock. None of these, however, has been mined commercially. Construction materials were produced from several quarries, and Société des Ciments de Numbo operated a cement plant at Nouméa.

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Major Source of Information

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TABLE 1
NEW CALEDONIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1997	1998	1999	2000	2001 e/
Cement e/	100,000	-- 3/	--	100,000	100,000
Cobalt, mine output: e/					
Co content	13,600	12,500	11,000	12,000	12,000
Recovered	1,000 r/	1,000 r/	1,100 r/	1,200 r/	1,400
Nickel:					
Ore:					
Gross weight thousand tons	8,145	7,526	6,561	7,087	6,550
Ni content	136,467	125,319	110,062	123,493 r/	117,554 3/
Metallurgical products:					
Ferronickel:					
Gross weight	159,018 r/	157,959	157,592	157,000 r/ e/	162,000
Metal content (nickel plus cobalt)	44,312	44,491	45,289	43,914 r/	45,912 3/
Nickel matte:					
Gross weight	14,200 r/	16,813	15,808	18,900 r/ e/	19,000
Metal content (nickel plus cobalt)	10,580	12,011	11,353	13,549 r/	13,650 3/

e/ Estimated. r/ Revised. -- Zero.

1/ Table includes data available through August 13, 2002.

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

3/ Reported figure.