



2008 Minerals Yearbook

NEW CALEDONIA

THE MINERAL INDUSTRY OF NEW CALEDONIA

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The archipelago of New Caledonia, which is an overseas territory of France, is located in the South Pacific region of Melanesia. The Geological Survey of New Caledonia, which was created in 2006, performs hydrogeological monitoring of major mining projects within the country and is charged with assessing the cobalt and nickel resources found within the mainland peridotite massifs. In 2008, the United Nations Educational, Scientific and Cultural Organization named the lagoons of New Caledonia to its list of World Heritage sites as they represent one of the most extensive intact reef systems in the world (Eramet S.A., 2007; United Nations Educational, Scientific and Cultural Organization, 2009).

Mining operations in New Caledonia date back to the 1800s. In 2008, despite decreased production caused by a damaging cyclone and decreased global demand for metals, New Caledonia was the world's fifth ranked producer of mined nickel after (in order of tonnage produced) Russia, Canada, Indonesia, and Australia. Mining operations at the Goro nickel deposit were expected to start up in 2009, and the mine expected to become one of the world's leading nickel laterite mines (Kuck, 2009).

Production

In 2008, a total 86,000 metric tons (t) of nickel was produced from 4.7 million metric tons (Mt) of saprolite ore and 16,700 t of nickel was produced from 1.5 Mt of laterite ore for a total of 102,700 t of nickel and 6.2 Mt of ore compared with 125,000 t and 7.6 Mt, respectively, in 2007. In 2008, about 37,500 t of ferronickel and 13,600 t of nickel matte were produced compared with 44,954 t and 13,860 t, respectively, in 2007 (Direction de l'Industrie, des Mines et de l'Energie, 2009).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2008, nickel exports decreased by about 9% to 52,195 t compared with 57,431 t in 2007 and 63,149 t in 2006, which resulted in a total 2-year decrease of about 17%. The amount of ferronickel exported in 2008 decreased by about 11% to 35,549 t (nickel content), which was the least amount of ferronickel exported in the 10 years before and including 2008. Nickel matte exports decreased by 2.6% in 2008 compared with those of 2007, but still remained above the level of exports for all other years since 1998, although exact production numbers were unavailable. Exports of ferronickel were received by the European Union (41.8%), Japan and Taiwan (18.2% each), China (whose share increased to 8.0% in 2008 from 5.2% in 2007), India, South Africa, the Republic of Korea (whose share increased to 2.4% in 2008 from 0.6% in 2007), and the United States. France was the only country that received New

Caledonian nickel matte (Institut de la Statistique et des Études Économique, 2009, p. 41-44).

Commodity Review

Metals

Nickel.—Société Le Nickel (SLN), which was a subsidiary of the Eramet Group of France, operated five mines in New Caledonia, including the Kouaoua, the Nepoui, the Poum, the Thio, and the Tiebaghi Mines. The company produced ferronickel and nickel matte at the Doniambo metallurgical plant from ores obtained from those mines. Renovation work on the plant's furnace 9, which resulted in a production stoppage from May 25 to September 15, was completed according to schedule. Nickel output at Doniambo reached 51,130 t in 2008. Two of the plant's melting furnaces and two calcination furnaces had been renovated since 2004 as part of Eramet's investment in New Caledonian projects (Eramet S.A., 2009a, p. 14-15).

SLN's Kouaoua mining center is located on the east coast 140 km north of Noumea. The center had a production capacity of about 1 million metric tons per year (Mt/yr) of ore with a total recorded ore production of about 30 Mt of saprolite. The saprolite deposit being worked was located at the summit of the Koeto massif, which is located 20 km from the west coast. The Tiebaghi mining center is located on the west coast 400 km north of Noumea; a new high-performance enrichment unit was opened there in November. The company expected to extend the life of the Tiebaghi deposit by 25% owing to the ability to process lower grade ores. At one time, the Tiebaghi massif was mined for chromium and cobalt, whereas nickel ores were a relatively recent discovery made in the early 1970s. The Thio mining center is located on the east coast in South Province, 120 km from Noumea. Mining began there in 1880 and has been carried out ever since. As of 2007, more than 40 Mt of saprolite containing 900,000 t of nickel had been extracted from the mines at Thio, including the Bomets, the Camp des Sapins, the Dothio, the Kongouhaou, the Ningua, and the Plateau Mines (Eramet S.A., 2007; 2009a).

In 2008, Vale Inco Ltd., which was a subsidiary of Vale S.A. of Brazil, reported that its Goro laterite nickel project was expected to have an annual production capacity of at least 60,000 metric tons per year (t/yr) of nickel oxide sinter and about 4,600 t/yr of cobalt; however, the company planned to begin operations in the first half of 2009 with very limited production and would gradually increase production during the next 4 years. The company reported estimated measured and indicated mineral reserves of 55 Mt and that its total investment in the project was about \$4.1 billion. The Goro project had been strongly opposed by local communities and environmental groups at least since the late 1990s. Work stoppages, protests, and problems with financing and permitting all contributed to construction and production delays (Vale S.A., 2009a, p. 35; 2009b).

In 2008, Xstrata plc of Switzerland announced that it had awarded large construction contracts at its Koniambo project. The company expected to process its first ore in the first half of 2012 and would reach a full annual production of 60,000 t of nickel in ferronickel within the next 2 years (Xstrata plc, 2009, p. 67).

Gladstone Pacific Nickel Ltd., which was an Australian mining development company, signed a joint-venture agreement with New Caledonia's Société Minière Georges Montagnat SA (SMGM) in 2007. The joint-venture company, which was called Ouinne SAS, commenced a resource definition drill program in January 2008 at the Ouinne nickel properties in southern New Caledonia. By June, almost 3,000 meters (m) of drilling had been completed, and the company expected to complete at least 9,000 m by the end of the year after receiving additional drill rigs in the third quarter of the year. In January 2009, Gladstone received approval from the Australian Government for construction of a smelter in Central Queensland where the New Caledonian laterite ores would be processed. Although resource estimates were not reported, the company stated that, based upon preliminary data, the New Caledonian resources were of a size and grade that would allow for production for at least 20 years (Gladstone Pacific Nickel Ltd., 2008, p. 12; 2009).

In January 2009, SLN signed a joint-venture agreement with the government of South Province, New Caledonia, to explore and develop the Creek Pernod and the Prony nickel deposits. Ownership of SLN was shared between the Eramet Group, Nisshin Steel Co. of Japan, and the Société Territoriale Calédonienne de Participation Industrielle (STCPI). STCPI represented the interests of South Province. The Government granted a 3-year exploration permit, which could be extended to a maximum of 9 years (Eramet S.A., 2009b).

Outlook

The prices of nickel metal products on the London Metal Exchange increased steadily since about 2001 and reached nearly three times those prices in mid-2007, but then began to drop significantly in mid-2007. By mid-2008, the prices were steadily falling, but were still nearly twice as high as the prices in 2001. Nevertheless, New Caledonia maintained relatively consistent production levels across those years until mid- to late-2008 when, the global recession notwithstanding,

such external factors as operational shutdowns and the largest recorded rainfall event since the 1950s contributed to production downturns. New Caledonia generates mining revenue from the production of only a few commodities, so its national economy is susceptible to variations in the demand for those commodities. Some companies with operating facilities and projects in development were required to assess their goals for 2009 from the perspective of slow but positive economic growth. The Government of New Caledonia projected that there would be a market for its products to supply China's steel industry in 2009. The major development projects in New Caledonia, including Vale's Goro and Xstrata's Koniambo projects, are still projected to start production in the near term; however, it remains to be seen how the metals markets will recover and what degree of success those projects will have in the near term.

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TABLE 1
NEW CALEDONIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2004	2005	2006	2007	2008 ^p
Cement	114,762	119,302	133,074	134,000	NA
Nickel:					
Ore:					
Gross weight thousand metric tons	7,033	6,445	6,179	7,575 ^r	6,172
Co content ³	2,726	1,769	1,900	1,920	1,300
Ni content	118,279	111,939	102,986	125,211	102,700
Ferronickel:					
Gross weight	151,296	155,800	162,000	145,000	124,900 ^e
Ni content	43,016	46,738	48,723	44,954	37,500
Nickel matte:					
Gross weight	17,200	18,100	19,300	19,500	18,000 ^e
Ni content	12,164	12,838	13,655	14,842 ^r	13,600

^eEstimated; estimated data are rounded to no more than three significant digits. ^pPreliminary. ^rRevised.

¹Table includes data available through October 30, 2009.

²In addition to the commodities listed, crude (unspecified) and crushed stone, construction sand, and silica sand for metallurgical use are produced, but available information is inadequate to make reliable estimates of output.

³Includes only cobalt contained in mined limonite.

Source: Institute de la Statistique et des Études Économique, New Caledonia, Series Statistiques—Mine—Metallurgie, March 2008; U.S. Geological Survey, Minerals Questionnaire, 2003-06; British Geological Survey, World Mineral Production 2002-05; World Bureau of Metal Statistics, World Metal Statistics, February 2008; and International Nickel Study Group, World Nickel Statistics, Monthly Bulletin, April 2008.

TABLE 2
NEW CALEDONIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e
Cement thousand metric tons	Société des Ciments de Numbo	Noumea	150
Cobalt			
In ore and concentrate, Co content	Société Le Nickel (SLN) (Eramet Group, 56%; Société Territoriale Calédonienne de Participation Industrielle (STCPI), 34%; Nisshin Steel Co., 10%)	Kouaoua, Nepoui-Kopeto, Poupou, and Thio, and Tiebaghi mining centers	2,000
Do.	Société Minière du Sud Pacifique (majority owned by the government of Northern Province, New Caledonia)	Boakaine, Ouaco, Poupou, and Poya mining centers	1,000
Nickel:			
In ore and concentrate, Ni content	Société Le Nickel (SLN)	Kouaoua, Nepoui-Kopeto, Poupou Thio, and Tiebaghi mining centers	61,500
Do.	Société Minière du Sud Pacifique, including Nickel Mining Corp., and Nouméa Nickel	Baokaine, Ouaco, Kouaoua, Poupou, Poya, and Nakety mining centers	35,800
Do.	Société de la Tontouta (Ballande Group)	Moneo and Nakety mining centers	16,000
Do.	Other small nickel mining companies, which include Société Minière George Montagnat SA (SMGM), GEMINI S.A.	Moneo and Nakety-Bogota, and Tontouta mining centers	7,300
In ferronickel, Ni content	Société Métallurgique le Nickel-Société Le Nickel (SLN)	Doniambo, Noumea	60,000
In nickel matte, Ni content	do.	do.	15,000

^eEstimated. Do., do. Ditto.

