

THE MINERAL INDUSTRY OF

LAOS

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In 1999, Laos made some progress toward a market economy and modest gains in its social and infrastructure sectors. The country had experimented with free-market reforms for more than a decade allowing foreign investment and private ownership of businesses. The Government, in close collaboration with the International Monetary Fund, tried to restore economic stability, to embark on legal and financial sector reform, to improve public sector management, and to expand anticorruption efforts. Foreign donors, however, were increasingly impatient with the Government's backtracking on reform. Laos was dependent on foreign aid—nearly half of the Government's budget was provided by foreign aid donors. Without such assistance, the predicted economic growth in 1999 of 3% could not have been realized. The Government's austerity measures, which included salary caps and high interest rates, brought the exchange rate to 7,500 kips to the U.S. dollar and inflation to a manageable 10% in late 1999 (Far Eastern Economic Review, 2000).

Structure of the Mineral Industry

The country's mining sector was potentially one of the most promising long-term growth areas. One U.S. company was mining some lode gold in Luang Prabang Province. Other ongoing mining activities exploited tin and gypsum used mainly for domestic construction. Sizable lignite and coal deposits were set for imminent development. In 1997, a new mining act passed by the National Assembly greatly restricted investors' rights and protections and reduced business incentives for large-scale exploration projects (Engineering & Mining Journal, 2000).

Commodity Review

Copper and Gold.—The Khanong copper deposit was one of several discoveries found in the Sepon copper-gold mineral field located in the Padan-Thengkham district of southern Laos. The copper resource was estimated to be 23 million metric tons with a grade of 3% copper (Loader, 1999). The unusual style of hypogene mineralization and unique supergene enrichment conditions had resulted in the formation of the high-grade deposit in a subtropical weathering environment. Lane Xang Minerals Ltd., which was a wholly owned subsidiary of Rio Tinto Ltd. of the United Kingdom, had been exploring the Sepon area since signing an agreement with the Government in 1993 and discovered the deposit in 1998.

In December, Oxiana Resources NL of Australia acquired an 80% stake in the Sepon copper-gold project for \$22 million

plus a net revenue royalty of 1.5% payable from the eighth year of operation from Rio Tinto (Metal Bulletin, 1999). The company planned to begin a feasibility study immediately that could cost from \$4 million to \$5 million and be completed in the second quarter of 2001. Sale of the project was subject to approval by the Government, final legal and commercial due diligence by Oxiana, and project financing arrangements being put in place. The company planned to spend between \$150 million and \$170 million for an openpit mine that could produce 40,000 metric tons per year of copper cathode and 3,732 kilograms per year of gold. First production of gold was expected in mid-2002, and copper, a year later. The copper was to be recovered by leaching and solvent extraction-electrowinning while the gold could be treated by heap leaching of the lower grade ores and by conventional carbon-in-leach process for the higher grades.

Sapphire.—In March, Gem Mining Lao PDR, which was a wholly owned subsidiary of Asia Sapphires Limited of Canada, opened a new sapphire-cutting plant in a converted office block in Vientiane. The cutting works took over preforming machinery and preform cutters from the company's existing operation and added new machinery. A contract with D. Swarovski & Co. of Austria created the need to double the workforce of 230 and mining and cutting capacities. A new mining plant was being built to accommodate the capacity increase. Most of the more than \$600,000 of sapphire sold by Asia Sapphires in the last half of 1998 was to U.S. buyers. The company, which was one of the world's foremost gem-processing companies, was committed to future exploitation of the Laotian sapphire deposits (Canada NewsWire, February 25, 1999, Asia Sapphires Ltd.—Vancouver listed sapphire miner builds new cutting works in Laos, accessed March 2, 1999, at URL <http://www.newswire.ca/releases/February1999/25/c9638.html>).

Infrastructure

Laos, Thailand, and Vietnam signed an agreement to permit the speedy transfer of cargo along an east-west highway that would link Thailand's northeastern province with Vietnam's central coastline. Trucks carrying Vietnamese fruit and seafood and Thai textiles and canned food would be traveling on the Mukdahan to Da Nang east-west corridor. Laos would have to be content with picking up toll fees from the motorway. In another development, the International Development Association endorsed the support for loans for the Nam Theun 2 hydropower project in Laos.

References Cited

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- Far Eastern Economic Review, 2000, Frustrated reforms in Laos: Far Eastern Economic Review, v. 163, no. 8, February 24, p. 26.
- Loader, S.E., 1999, Supergene enrichment of the Khanong copper resource—Sepon project, Lao PDR: PACRIM '99, Bali, Indonesia, October 10-13, 1999, Proceedings, p. 263.
- Metal Bulletin, 1999, Major copper-gold project planned for Laos: Metal Bulletin,

no. 8437, December 23, p. 5.

Major Sources of Information

Lao Minerals Exploration Co.
Vientiane, Laos
Department of Geology and Mines, Ministry of Industry
Vientiane, Laos

TABLE 1
LAOS: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1995 e/	1996	1997	1998	1999
Barite	--	--	--	9,050	6,600
Coal, all grades	110,000	74,680	95,214	70,553	175,259
Cement (from imported clinker) e/	10,000	9,000	8,000	9,000	9,000
Gemstones (sapphires)	4,000	4,006	211,511	255,346	126,070
Gold, mine output, Au content	carats --	5,000 e/	24,755	--	--
Gypsum	85,000	113,000 e/	114,306	130,250	134,745
Salt, rock e/	8,000	1,400 r/	1,800 r/	3,894 r/ 3/	4,000
Tin, mine output, Sn content	200	906	618	537	492

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

1/ Table includes data available through July 26, 2000.

2/ In addition to the commodities listed, crude construction materials, such as sand and gravel and varieties of stone, presumably are produced, but available information is inadequate to make reliable estimates of output levels.

3/ Reported figure.