



# 2010 Minerals Yearbook

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## PHILIPPINES

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# THE MINERAL INDUSTRY OF THE PHILIPPINES

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In 2010, the Philippines produced about 11% of the total world production of nickel, up from 10% of world production in 2009 (Kuck, 2012). Other mineral commodities produced in the Philippines included cement, chromium, copper, gold, marine salt, and silver (table 1).

## Minerals in the National Economy

In 2010, the mining and quarrying sector (at constant 2000 prices) contributed about 1.2% to the Philippines' gross domestic product (GDP), which was an increase of 11.5% compared with that of 2009. The construction sector contributed 5.7% to the GDP, which was an increase of 14.3% compared with that of 2009. The mining and quarrying sector contributed \$277.5 million in foreign direct investment (FDI) in the country, which represented 32.72% of the total FDI in 2010 (Bangko Sentral ng Pilipinas, 2011a, b).

## Government Policies and Programs

The 1995 Philippine Mining Act regulates mineral resources development, requires the Government to monitor the data and maintain a database of mineral reserves, and encourages direct investment in mineral exploration and development activities in the Philippines. The Government grants exploration permits to qualified applicants to explore for mineral resources; the exploration permit is valid for a period of 2 years and is renewable for not more than 4 years for exploration of nonmetallic minerals and 6 years for exploration of metallic minerals (Mines and Geosciences Bureau, 2010).

The 1995 Philippine Mining Act allows for three types of mining agreements. The first is a mineral agreement in which the Government grants a domestic contractor (a Filipino individual or corporation) an exclusive right to conduct mining operations in the contracted area. The agreement is valid for 25 years and is renewable for another 25 years. The second type of mining agreement is a Financial or Technical Assistance Agreement (FTAA), which is available to domestic and foreign corporations for a maximum area of 81,000 hectares (ha) onshore or 324,000 ha offshore; this agreement is valid for a period of 25 years and is renewable for another 25-year period. The third type of agreement is a mineral production-sharing agreement for properties with a maximum area of 16,200 ha; this permit, which is open to domestic and foreign corporations, is valid for a period of 25 years and is renewable for another 25-year period (Mines and Geosciences Bureau, 2010).

In May 2009, the Alternative Mining Bill—House Bill 6342, also known as the Philippine Mineral Resources Act of 2009, was filed in the Philippines' Congress. The bill, which contains new mining policies, was proposed to replace the Philippines Mining Act of 1995. The proposed Act includes new regulations on mineral exploration activities and on the development and

use of mineral resources, and includes provisions to guarantee the fair distribution of benefits obtained from mining activities to indigenous people, local communities, and the State. The proposed act covers the management and ownership of mineral ores located onshore, such as gemstones, quarry products, sand and gravel; however, it does not address offshore mining and other mineral resources, such as coal, geothermal energy, natural gas, petroleum, and radioactive materials. The Act includes provisions to promote the reuse and recycling of existing mineral products as a primary way to satisfy the need for resources, as well as a more responsible management of resources (Manilatimes.net, 2010).

## Production

In 2010, the Philippines Department of Energy reported a 41.9% increase in the production of coal to 6,650,000 metric tons (t) from 4,687,000 t in 2009. The coal was mainly used in the country by the cement industry and for the generation of power. According to the Department of Energy of the Philippines's energy plan for 2009 to 2030, the country is expecting to produce about 9 million tons of coal in 2015. In December 2010, the Department of Energy announced that it has identified 12 areas for coal development in the near future (Business Inquirer, 2010; Intellasia.net, 2010).

Mineral production also increased, mainly in the metals sector, for the following commodities: nickel, 23.8%; silver, 21.3%; mined copper, 19.1%; and gold, 10.3%. The metal commodities for which production decreased in 2010 were zinc, 7.6%; smelted and refined copper, 6% and 3.4%, respectively; and iron and steel, about 3% (table 1).

## Structure of the Mineral Industry

In 2010, an estimated 197,000 people were employed in the mineral industry (Mines and Geosciences Bureau, 2011a). Some of the main producers of mineral commodities in the Philippines were CGA Mining Ltd. (which produced gold and silver), Lafayette Mining Ltd. (copper, gold, and silver), Lepanto Consolidated Mining Co. (copper, gold, silver), Nickel Asia Corp. (nickel), Philex Mining Corp. of Canada (copper, gold, and silver), and TVI Resources Development Philippine Inc., which was the Philippines affiliate of TVI Pacific Inc. of Canada (gold and silver). The country's major mineral industry facilities are listed in table 2.

## Mineral Trade

In 2010, total trade in the Philippines increased by 30.5% to \$106.430 billion from \$81.528 billion in 2009. The country's total exports were valued at \$51.498 billion compared with \$38.436 billion in 2009, which was an increase of 34%;

similarly, the total value of imports in 2010 increased by 27.5% to \$54.933 billion from \$43.092 billion in the previous year. Exports of cathodes and sections of cathodes of refined copper were valued at \$804.87 million (or 1.6% of the country's total export value) compared with \$687.98 million in 2009, which was an increase of 17%; the export of petroleum products increased by 26.7% to \$371.16 million in 2010. Imports of iron and steel and mineral fuels and related materials were valued at \$10.82 billion in 2010 (about 19.7% of the country's total import value) compared with \$8.28 billion in 2009, which was an increase of 30.6% (National Statistics Office of the Philippines, 2011).

In 2010, the Philippines' leading trading partner was Japan, which accounted for 13.7% (\$14.585 billion) of the country's total trade—an increase of 26% from \$11.571 billion traded between the two countries in 2009. The total value in trade between the countries was distributed as \$7.841 billion in exports to Japan, and \$6.744 billion in imports from Japan. The second ranked trading partner was the United States, which accounted for 12.6% of total trade; exports to and imports from the United States were valued at \$7.559 billion and \$5.887 billion, respectively. The total trade in 2010 between the countries was \$13.446 billion compared with \$11.902 billion in 2009, which represented an increase of 13%. The country's third and fourth ranked trading partners were Singapore and China, which accounted for 11.8% and 9.7% of the Philippines' total trade, respectively. Exports to Singapore were valued at \$7.319 billion and imports from Singapore were valued at \$5.187 billion, for a total of \$12.506 billion in 2010 compared with \$6.201 billion in 2009, or an increase of 101.7%. Exports to China were valued at \$5.724 billion and imports from China were valued at \$4.628 billion for a total of \$10.352 billion in 2010 compared with \$6.741 billion in 2009, or an increase of 53.6% (National Statistics Office of the Philippines, 2011).

## Commodity Review

### Metals

**Copper.**—In 2010, the mined copper production in the country totaled 58,412 t of metal content, which represented an increase of 19.1% compared with the 49,060 t produced in 2009. Copper mine output at Carmen Copper Corp.'s Toledo Copper Complex was 27,241 t compared with 18,105 t in 2009 (an increase of 50.5%), and at Philex Mining Corp.'s Padcal copper project production reached 16,157 t compared with 15,313 t in 2009 (an increase of 5.5%). Copper production decreases of 4%, however, were reported in TVI Resources Development Philippines' Canatuan mining project and at Lafayette Mining's Rapu-Rapu polymetallic project (table 1; Mines and Geosciences Bureau, 2011b).

In February 2010, TVI Pacific Inc. and DMCI-CERI, a subsidiary of DACON Corp. of the Philippines, signed a joint-venture agreement for the development, exploration, and production activities at the EXPA 61 prospect located within the Greater Canatuan Tenement Area (GCTA). The GCTA is a 352-square-kilometer area of that surrounds the Canatuan Mine, which is a polymetallic mine located in the Zamboanga del

Norte Province in Mindanao. TVI Pacific started commercial operations at the mine in March 2009. Under the joint-venture agreement, TVI Pacific would serve as the operator of the project and hold a 70% interest, and DMCI-CERI would hold the remaining 30% interest. Initial work in the EXPA 61 prospect was finished in June 2010 and included the completion of a geophysical survey and submittal of an exploration permit application to the Government (TVI Pacific Inc., 2010).

In April 2010, a feasibility study of the Tampakan mining project was completed and submitted to the Government for further evaluation. The study indicated a potential for the production of approximately 375,000 metric tons per year (t/yr) of copper, and about 11,200 kilograms per year (kg/yr) of gold (reported as 360,000 troy ounces per year). The Tampakan site covered an area of 10,000 ha and was operated by Sagittarius Mines, Inc. (SMI). The project [Xstrata plc. of the United Kingdom (62.5%), and Indophil Resources NL of Australia (37.5%)] is located in South Cotabato Province near the town of Tampakan on the southern Island of Mindanao. The project, which was planned to be commissioned by 2016, was under an FTAA for a term of 25 years and had an estimated mine life of 17 years. In June 2010, the government of South Cotabato Province approved the South Cotabato environment code, which consisted of a Provincial ordinance that banned the use of open pit mining as a method to extract resources. The Tampakan project was not immediately affected by the ordinance given that the project was still in the exploration phase. The companies had expressed their interest in having the situation resolved before it could threaten the estimated investment of \$5.2 billion (Mineweb.com, 2010; Xstrata plc, 2010, p. 78; Indophil Resources NL, 2011; Sagittarius Mines, Inc., 2011a, b).

**Gold.**—Gold production in the Philippines increased by 10.3% to 40,847 kg in 2010 from 37,047 kg in 2009 (table 1). Based on gold purchases by the Bangko Sentral ng Pilipinas (Philippines Central Bank), small-scale mines produced 25,232 kg in 2010 compared with 26,112 kg in 2009, which represented a decrease of 3.4%. The Masbate gold project, which started operations in May 2009 and yielded 2,286 kg of gold that year, produced 5,536 kg of gold in 2010, which was an increase of 142%. CGA Mining Ltd. of Australia planned to start an expansion project at Masbate in 2011 to increase the mine's production to more than 6,200 kg of gold (CGA Mining Ltd., 2011; Mines and Geosciences Bureau, 2011b).

In May 2010, Medusa Mining Ltd. of Australia, through its Philippines operating company Philsaga Mining Corp., announced the discovery of a porphyry gold-copper mineralization prospect named Usa, which is located west of the Barobo fault corridor in the northeastern part of the Island of Mindanao. The tenement was locally owned by Corplex Resources Inc., which had the right to buy back a 30% interest in the project; in turn, Archipelago Resources plc had the right to acquire 80% or more of Corplex's interest in the tenement. Rock samples from the Usa prospect had yielded results in the range of 0.42 gram per metric ton (g/t) gold and 0.59% copper. The operating company planned to continue soil sampling activities in the spring of 2011 to delineate the extent of the mineralization in the tenement (Archipelago Resources plc, 2010; Medusa Mining Ltd., 2010).

Also in May, Metals Exploration plc. of the United Kingdom announced that the results of the Runruno gold and molybdenum project feasibility study confirmed that the project was viable. Based on exploration results, Runruno projected a mine life of 10 years with an annual production of about 3,000 kg of gold (reported as 96,700 troy ounces). The project, which is located in Nueva Viscaya Province about 322 kilometers (200 miles) north of Manila, was proposed as an open pit mining operation. The company estimated potential resources of 44,200 kg of gold (reported as 1.42 million troy ounces) and 11,612 t of molybdenum (Metals Exploration plc., 2011).

The Red 5 Ltd. company started construction of the Siana gold project in June 2010 after approvals were granted by the Government in November 2009. The project is located in Surigao del Norte Province in Mindanao and was planned to be developed initially as an open pit operation followed by an underground mine. The company was expecting to start drilling activities by mid-2011 and to have the first gold pour by the end of the year. The company estimated a mine life of 10 years and a total production of nearly 26,400 kg (reported as 849,000 troy ounces) of gold (Red5 Limited, 2011).

In September 2010, OceanaGold Corp. of Australia announced the completion of an optimization study for its Didipio gold-copper project. The project is located to the north of the Island of Luzon in northern Philippines and was put on care-and-maintenance status in late 2008 because of increases in costs to complete the project. The optimization study revealed a proven and probable reserve of 29.7 million metric tons (Mt) of ore with average grades of 1.48 g/t gold and 0.57% copper. The project would be developed at a cost of \$140 million and have a mine life of 20 years; during the first 6 years, the project would be operated as an open pit mine and thereafter would use underground mining methods. Once commissioned, the plant would have the capacity to process an estimated 2.5 million metric tons per year (Mt/yr) of ore during the first 6 years and thereafter (once underground) it would have the capacity to process 1.2 Mt/yr of ore (OceanaGold Corp., 2010).

**Nickel.**—In 2010, the production of nickel in the Philippines increased by 23.8% to 172,991 t from 139,744 (revised) in 2009 (table 1). Major increases in nickel production were reported for the following projects: output at the Cagdianao nickel project increased to 32,807 t in 2010 from 15,077 t in 2009; Carrascal nickel project, to 22,424 t from 7,011; Claver nickel project, to 15,299 t from 7,513 t; Rio Tuba nickel project, to 16,648 t from 4,008 t; and Tagana-an nickel project, to 18,992 t from 10,883 t (Mines and Geosciences Bureau, 2011b).

In February 2010, the companies European Nickel plc of the United Kingdom and Rusina Mining NL of Australia signed a merger implementation agreement in which European Nickel proposed to acquire all Rusina-issued shares in the Acoje nickel project. The project, which is located in Zambales, was owned by Rusina (72%) and European Nickel (20%) before the merger agreement. The development had an estimated mine life of 10 years and a projected capacity to produce about 25,000 t/yr of nickel (Rusina Mining NL, 2010; European Nickel plc., 2011).

In September 2010, Nickel Asia Corp. acquired a 22.5% interest in the Taganito high-pressure acid-leach (HPAL)

Nickel Corp. hydrometallurgical nickel processing plant through a joint-venture agreement. The agreement was signed in conjunction with Sumitomo Metal Mining Co., Ltd. and Mitsui & Co., Ltd., and involved the construction and operation of the processing plant. The plant would cost \$1.4 billion to build and was scheduled to be commissioned in mid-2013. It would have the capacity to process 30,000 t/yr of contained nickel and 2,600 t/yr of contained cobalt. In November, Nickel Asia purchased the Cordillera Exploration Co., Inc. from Anglo American of the United Kingdom. Cordillera had four properties with prospects for gold and copper. The properties were located in northern Luzon. For 2011, Nickel Asia planned to start exploration work at one of the properties, the Manmanok property located in the Apayao Province (Nickel Asia Corp., 2010, p. 1, 5–6).

The Coral Bay Nickel Corp. (Sumitomo Metal Mining, 54%) announced in October a project to expand its HPAL nickel-processing facility located in Palawan Province. The plant had an annual capacity of 20,000 t and used HPAL technology to recover cobalt and nickel from low-grade nickel oxide ores. With the expansion, the Coral Bay HPAL plant was expected to increase its annual production to 24,000 t (Olchondra, 2010).

## Outlook

The mineral industry of the Philippines had a steady increase in production during 2010. As demand for construction materials and for copper, gold, and nickel increases in the Southeast Asia region, the Philippines is likely to be a key supplier and producer of these mineral commodities. The country is also likely to increase its mineral production and trade with neighboring countries. In the next few years, the mineral production in the country is expected to continue to be dominated by the production of nickel, as many projects have started to expand their facilities. Similarly, other metal production is expected to increase as major exploration activities come to fruition with new discoveries; and as proposed developments, such as the Siana gold project, the Taganito HPAL Nickel Corp. processing plant, and the Tampakan copper project, are completed between 2011 and 2016.

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TABLE 1  
PHILIPPINES: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2006	2007	2008	2009	2010
METALS					
Chromium, chromite, gross weight	46,728	31,592	15,268	14,322 <sup>r</sup>	14,807
Cobalt, mine output, Co content	900	1,000	1,200 <sup>e</sup>	1,500 <sup>e</sup>	2,200
Copper:					
Mine output, Cu content	17,161	22,862	21,235	49,060	58,412
Metal:					
Smelter	239,600	220,000	239,700 <sup>r</sup>	230,100 <sup>r</sup>	216,200
Refined	181,000	160,200	174,600	178,000 <sup>r</sup>	171,900
Gold, mine output, Au content kilograms	36,141	38,792	35,726	37,047	40,847
Iron and steel, steel, crude thousand metric tons	558	718	711	824 <sup>r</sup>	800 <sup>e</sup>
Lead, metal, secondary refined	30,000	34,000	34,000	40,000 <sup>e</sup>	40,000 <sup>e</sup>
Nickel, mine output, Ni content <sup>3,4</sup>	65,000 <sup>r</sup>	136,000 <sup>r</sup>	75,000 <sup>r</sup>	144,000 <sup>r</sup>	204,000
Silver, mine output, Ag content kilograms	23,502	27,754	14,224	33,808	41,004
Zinc, Zn content	--	7,394	1,619	10,035	9,268
INDUSTRIAL MINERALS					
Cement, hydraulic thousand metric tons	12,033	13,048	13,369	14,865	15,900
Clays:					
Bentonite	1,000	1,148	1,422	1,413	1,475
Red	5,420	6,742	7,181	7,357	7,050
White	7,138	7,224	8,745	8,519	8,857
Other	4,901	4,883	5,601	5,599	5,878
Feldspar	15,176	14,837	15,838	16,394	15,882
Lime	3,313	3,822	4,299	4,327	4,524
Perlite	4,352	4,515	4,593	4,606	4,756
Phosphate rock	1,963	1,961	2,271	2,257	2,308
Pyrite and pyrrhotite, including cuprous, gross weight <sup>e</sup>	300,000	-- <sup>r</sup>	-- <sup>r</sup>	-- <sup>r</sup>	--
Salt, marine	418,210	437,689	510,059	516,066	557,644
Sand and gravel:					
Silica sand thousand metric tons	179	221	270	284	296
Other <sup>5</sup> thousand cubic meters	38,455	40,076	46,659	46,602	49,009
Stone:					
Dolomite	1,083,269	1,092,748	1,150,035	1,176,991	1,259,152
Limestone <sup>6</sup> thousand metric tons	21,888	26,419	31,528	33,090	35,540
Marble, dimension, unfinished cubic meters	3,964	4,791	5,410	5,629	6,001
Pumice	1,917	1,912	2,063	2,064	2,274
Volcanic cinder <sup>7</sup> cubic meters	6,378	6,177	6,519	6,686	7,325
Tuff	17,590	16,490	17,570	18,830	19,166
Quartz <sup>e</sup>	50,000	50,000	50,000	50,000	50,000
Crushed, broken, other <sup>8</sup> thousand cubic meters	2,735	2,810	3,077	3,069	3,258
Sulfur, all forms <sup>e</sup>	180,000	180,000	180,000	180,000	180,000
MINERAL FUELS AND RELATED MATERIALS					
Coal, all grades thousand metric tons	2,529	3,401	3,610	4,687	6,650
Petroleum:					
Crude thousand 42-gallon barrels	181	184	965	2,920	3,059
Refinery products: <sup>e</sup>					
Liquefied petroleum gas do.	31,000	2,951 <sup>9</sup>	3,556 <sup>9</sup>	3,286 <sup>9</sup>	3,500 <sup>e</sup>
Gasoline do.	128,000	12,491 <sup>9</sup>	11,988 <sup>9</sup>	9,153 <sup>9</sup>	9,000
Jet fuel do.	46,000	46,000	46,000	46,000	46,000
Kerosene do.	18,000	7,277 <sup>9</sup>	6,596 <sup>9</sup>	1,002 <sup>9</sup>	1,000
Distillate fuel oil do.	170,000	170,000	23,871 <sup>9</sup>	17,541 <sup>9</sup>	17,500
Residual fuel oil do.	234,000	21,226 <sup>9</sup>	15,975 <sup>9</sup>	10,776 <sup>9</sup>	10,000
Refinery fuel and losses do.	230,000	230,000	2,307 <sup>9</sup>	2,068 <sup>9</sup>	2,000
Other do.	225,000	1,725 <sup>9</sup>	2,882 <sup>9</sup>	4,635 <sup>9</sup>	4,500
Total do.	1,080,000	492,000	113,000	94,500	93,500

See footnotes at end of table.

TABLE 1—Continued  
PHILIPPINES: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

<sup>6</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. <sup>do</sup> Ditto. <sup>NA</sup> Not available. <sup>--</sup> Zero.

<sup>1</sup>Table includes data available through January 30, 2012.

<sup>2</sup>In addition to the commodities listed, the Philippines produces platinum-group metals as byproducts of other metal production, but available information is inadequate to make reliable estimates of output.

<sup>3</sup>Nickel, mine output, Ni content of production, in metric tons, reported by the Government was 2006—64,705; 2007—91,367; 2008—80,644; 2009—139,744; and 2010—172,991.

<sup>4</sup>Data compiled from the United Nations Comtrade trade data database for nickel ores and concentrates imported from the Philippines by China and Japan.

<sup>5</sup>Includes "pebbles" and "soil" not further described.

<sup>6</sup>Includes limestone for agriculture, cement manufacturing, industrial use, and other.

<sup>7</sup>Reported as "black cinder" for years 2006–10 by the Philippines Mines and Geosciences Bureau.

<sup>8</sup>Includes materials described as rock, crushed or broken/blasted; stones, cobbles, and boulders; pebbles; rock aggregates; and broken adobe.

<sup>9</sup>Reported figure.

TABLE 2  
PHILIPPINES: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Cement	Fortune Cement Corp.	Bulacan plant at Norzagaray, Bulacan Province; Batangas plant at Taysan, Batangas Province	2,100,000.	
Do.	Holcim Philippines, Inc.	Bulacan plant at Norzagaray, Bulacan Province; Davao plant at Barrio Ilang, Davao City; La Union plant at Bacnotan, La Union Province; Lugait plant at Lugait, Misamis Oriental Province	7,200,000.	
Do.	Solid Cement Corp., APO Cement Corp., and Rizal Cement Corp.	Cement plants at three locations— Naga, Cebu Province (APO Cement Corp.); Antipolo City, Rizal Province (Solid Cement Corp.); Binangonan, Rizal Province (Rizal Cement Corp.)	4,300,000.	
Chromite	Consolidated Mines Inc. (owner) and Benguet Corp. (operator)	Masinloc chromite mine (Coto chromite deposit) located in Coto 27 kilometers east of the Port of Mansiloc in Zambales Province	5,000.	
Do.	Krominco Inc.	Dinagat chromite project—Redondo Mine (Mt. Redondo deposit) located in the Municipality of Loreto, Dinagat Island	26,000.	
Do.	Heritage Resources Mining Corp.	Homonhon chromite project	17,000.	
Copper	Lepanto Consolidated Mining Co.	Victoria and Teresa Mines located in Mankayan, Benguet Province	200.	
Do.	TVI Resources Development Philippine Inc., 100%	Canatuan project, located east of Siocon, Province of Zamboanga del Norte, Mindanao Island	10,000.	
Do.	Carmen Copper Corp.	Toledo Copper Complex, located in the Central Highlands of Cebu, Cebu Island	20,000.	
Do.	Philex Mining Corp. (through its subsidiary Philex Gold Inc.), 81%	Padcal copper project located in Tuba, Benguet Province, Island of Luzon	21,000.	
Do.	Glencore International AG	Philippine Associated Smelting and Refining Corp. (PASAR), located in Isabel, Leyte Province	250,000 smelter; 173,000 refinery.	
Do.	Lafayette Mining Ltd., 75%, and LG International and Korean Resources Corp., 25%	Rapu-Rapu Mine under the Rapu-Rapu polymetallic project, located in Albay Province	36,000.	
Gold	kilograms	Lepanto Consolidated Mining Co.	Victoria and Teresa Mines located in Mankayan, Benguet Province	2,000.
Do.	do.	Philex Mining Corp. (through its subsidiary Philex Gold Inc.), 81%	Padcal Mine (Sto. Tomas II deposit) located in Tuba, Benguet Province, Island of Luzon	5,000.
Do.	do.	TVI Resources Development Philippine Inc., 100%	Canatuan project, located east of Siocon, Province of Zamboanga del Norte, Mindanao Island	500.
Do.	do.	Lafayette Mining Ltd., 75%, and LG International and Korean Resources Corp., 25%	Rapu-Rapu Mine under the Rapu-Rapu polymetallic project, located in Albay Province	1,500.
Do.	do.	Philippine Mining Development Corp.	Diwalwal Direct State Development Project at Mount Diwalwal in Davao del Norte Province	100.
Do.	do.	APEX Mining Company Inc.	APEX Maco operation	100.
Do.	do.	CGA Mining Ltd.	Masbate Gold Project, located 350 kilometers south of Manila, Masbate Island	6,000.
Nickel	Coral Bay Nickel Corp. (Sumitomo Metal Mining Co. Ltd., 54%; Mitsui & Co. Ltd. 18%; Rio Tuba Nickel Mining Corp., 10%; Nickel Asia Corp., 6%)	Coral Bay nickel high pressure acid-leach (HPAL) plant located on Palawan Island	20,000.	

See footnotes at end of table.

TABLE 2—Continued  
PHILIPPINES: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Nickel—Continued	Nickel Asia Corp., 100%	Cagdianao nickel project located near Barangay Valencia on Dinagat Island	10,000.	
Do.	Hinatuan Mining Corp.	South Dinagat project located on Nonoc Island	4,000.	
Do.	Nickel Asia Corp., 100%	Tagana-an nickel project located on Hinatuan Island	30,000.	
Do.	Nickel Asia Corp., 65%; Pacific Metals Co. Ltd., 33.5%; Sojitz Philippines, 1.5%	Claver nickel project (Taganito) located in Surigao del Norte Province, Mindanao Island	16,000.	
Do.	Nickel Asia Corp., 60%; Pacific Metals Co. Ltd., 36%; Sojitz Philippines, 4%	Rio Tuba nickel project, located in Barrio Rio Tuba, Municipality of Bataraza in Palawan Province.	5,000.	
Do.	Toledo Mining Corporation Plc., 56.1%	Berong nickel project located on Palawan Island	10,000.	
Do.	CRAU Mineral Resources Corp.	Santa Cruz-Candelaria Nickel project located in Zambales Province	1,000.	
Do.	CTP Construction & Mining Corp.	Adlay-Cagdianao-Tandawa (ACT) nickel project, located in Barangay Adlay, Municipality of Carrascal, Province of Surigao del Sur	10,000.	
Do.	SR Metals, Inc.	SR Nickel project, Tubay Mine, located in Tubay, Agusan del Norte Province	25,000.	
Silver	kilograms	Lepanto Consolidated Mining Co.	Victoria and Teresa Mines located in Mankayan, Benguet Province	4,000.
Do.	do.	TVI Resources Development Philippine Inc., 100%	Canatuan project, located east of Siocon, Province of Zamboanga del Norte, Mindanao Island	17,000.
Do.	do.	Lafayette Mining Ltd., 75%, and LG International and Korean Resources Corp., 25%	Rapu-Rapu Mine under the Rapu-Rapu polymetallic project, located in Albay Province	18,000.
Do.	do.	Philex Mining Corp. (through its subsidiary Philex Gold Inc.), 81%	Padcal Mine (Santo Tomas II deposit) located in Tuba, Benguet Province, Island of Luzon	5,000.
Zinc		Lafayette Mining Ltd., 75%, and LG International and Korean Resources Corp., 25%	Rapu-Rapu Mine under the Rapu-Rapu polymetallic project, located in Albay Province	8,000.

Do., do. Ditto.