

2012 Minerals Yearbook

PERU

THE MINERAL INDUSTRY OF PERU

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In 2012, Peru was ranked among the world's leading producers of the following mineral commodities, in order of rank: copper (third after Chile and China), silver (third after Mexico and China), tin (third after China and Indonesia), zinc (third after China and Australia), molybdenum (fourth after China, the United States, and Chile), gold (fifth after China, Australia, the United States, and Russia), and lead (fifth after China, Australia, the United States, and Mexico). In Latin America, Peru ranked first in the production of gold, lead, tin, and zinc, and second in the production of copper, molybdenum, and silver (Carlin, 2013; Edelstein, 2013; George, 2013a, b; Guberman, 2013; Polyak, 2013; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013c; Tolcin, 2013).

Minerals in the National Economy

In 2012, Peru's gross domestic product (GDP) growth rate was 6.3% compared with 6.9% in 2011. The country's nominal GDP amounted to \$332 billion in 2012 compared with a revised \$312.4 billion in 2011. The composition of the GDP by sector was, in order of value, services (57.3%), industry (36.3%), and agriculture (6.4%). Peru's net monetary international reserves increased to \$64.0 billion from \$48.8 billion in 2011. Exports exceeded imports by \$4.5 billion compared with \$9.3 billion in 2011 (Banco Central de Reserva del Perú, 2013, p. 66–67; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013b, d).

According to registered statements submitted by companies and investors to ProInversión—Agencia de promoción de la inversión privada—Perú (as required by Article 19 of Legislative Decree No. 662), Peru's foreign direct investment (FDI) and private domestic investment increased to about \$44.3 billion in 2012 from \$34.6 billion in 2011. The FDI amounted to about \$12.2 billion in 2012 compared with \$8.2 billion in 2011. The main sources of FDI to Peru were Spain (21.3%); the United States (13.3%); South Africa (7.7%); Chile (7.3%); Brazil, Canada, and the United Kingdom (5.8% each); and others (33.0%). In 2012, the stability of the Peruvian judicial framework also helped to encourage investment in the mineral sector, which amounted to about \$8.6 billion compared with more than \$7.2 billion in 2011. Investments went to infrastructure (\$1.8 billion), mining (\$1.6 billion), beneficiation (\$1.1 billion), exploration (\$900 million), and others (\$3.2 billion) (Banco Central de Reserva del Perú, 2013, p. 92; Ministerio de Energía y Minas, 2013a, p. 14–15; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a, c, d).

Private investment increased annually by 13.6% between 2005 and 2012 with the exception of 2009, when investment decreased by 15.1%. The ratio of private investment with respect to the country's GDP increased to 19.5% in 2011 and 21.4% in 2012. The investment in the mining sector amounted to \$57.4 billion; investment in the energy sector amounted

to \$130 million; and investment in the hydrocarbon sector amounted to \$130 million (Banco Central de Reserva del Perú, 2013, p. 17–19; Ministerio de Energía y Minas, 2013b, p. 1–4).

The combined value of the mining and hydrocarbon sectors alone increased by 2.2% in 2012 compared with a decrease of 0.2% in 2011. The small increase reflected the lower rates of extraction of gold, iron, molybdenum, and tin, although it was partially offset by increased production of copper, lead, silver, and zinc. The mineral sector activity increased in value by 2.1% in 2012 compared with a revised decrease of 3.2% in 2011; the hydrocarbon sector activity, however, decreased by 2.3% in 2012 compared with a revised decrease of 18.1% in 2011. In 2012, Peru's labor force amounted to 16.2 million, of which the mining sector employed almost 1.3%, or 207,770 people compared with a revised 173,145 people in 2011; this number did not include the nearly 61,000 active informal miners (table 1; Banco Central de Reserva del Perú, 2013, p. 23, 32; Ministerio de Energía y Minas, 2013a, p. 29; U.S. Central Intelligence Agency, 2013).

Government Policies and Programs

The new tax framework for the mineral sector that was approved by the Executive Branch on September 28, 2011, became effective on October 1, 2011. The laws that established the new regime for mining include the following: (a) Creation of Special Levy on Mining (law No. 29790), which applies to mining companies that have tax stability agreements; (b) Amendment of Mining Royalties (law No. 29788), which is a new regime of royalties that applies to companies without existing tax stability agreements. The amendment establishes that the amount payable in royalties may not be less than 1% of sales. If the company has signed a tax stability agreement and is paying royalties, the royalty amounts are deductible from the special levy. The revenues from this levy are distributed among the three levels of government—national, regional, and district; (c) Creation of Special Tax on Mining (law No. 29789), which also applies to mining companies without existing tax stability agreements. The revenues from this tax are allocated to the national Government (Banco Central de Reserva del Perú, 2013, p. 32, 276; Ministerio de Energía y Minas, 2013a, p. 33–34; 2013c).

The relevant laws governing domestic and foreign investment are Article 19 of Legislative Decree No. 662 (promotion of foreign investment), which allows investors unrestricted access to all economic sectors; Legislative Decree No. 757 (framework for the development of private investment), which pertains to private investment growth; and Legislative Decree No. 868 of May 1996 (Texto Unico Oficial) as approved by Supreme Decree No. 059–96–PCM, which promotes private investment in public infrastructure and utility works. Other laws relevant to domestic and foreign investment in mining include

Decree No. 708 of November 1991 (promotion of investment in mining), Legislative Decree No. 818 of April 1996 (incentives for investing in natural resources), and Supreme Decree No. 162–92–EF of October 1992 (rules guaranteeing foreign investment) (Banco Central de Reserva del Perú, 2013, p. 17–19; Ministerio de Energía y Minas, 2013b, p. 1–4).

Peru enacted Supreme Decree No. 047–2002–EF of April 2002 (import duties for capital goods) to reduce the duties paid to 7% from 20% and 12% on capital goods to be used in the exploration for and production of certain minerals, such as oil and gas in the Amazon region. Law No. 27623–EF was enacted in January 2002 to eliminate the 18% sales tax on capital goods and services for mineral exploration. Supreme Decree No. 015–2004–PGM of January 2004 (legal framework for decentralization) was established to use revenues from mineral production to promote economic growth, environmental protection, and social development in local communities in a sustainable way. Supreme Decree No. 066–2005–EM of May 2006 (legal framework for creation of the Dirección de Gestión Social) was established to administer the Corporate Social Responsibility program in the mineral sector; this program's proceeds from the mineral sector accounted for 8.4% of the GDP in 2012 and 8.3% in 2011 (Banco Central de Reserva del Perú, 2013, p. 105; Ministerio de Energía y Minas, 2013c).

The Peruvian Constitution establishes equal protection for domestic and foreign investors who enter into agreements with the Government. Hydrocarbon law No. 26844 of May 1997 eliminated the exclusive rights of state-owned Petroperú S.A. to control the secondary recovery of crude oil, refining, and imports and the subsequent resale of petroleum and byproducts (Ministerio de Energía y Minas, 2013a, p. 21; 2013c, d; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a, c, d).

Legal procedures to obtain mining rights were made simpler by the enactment of complementary legislation to Supreme Decree No. 018 of July 9, 1992. The Government relinquished its exclusive management of exploration, mining, smelting, and refining of metals and fuel minerals. Individuals and private companies are allowed to hold mining permits in Peru. In the legal framework for investment and taxation, no distinction is made among domestic and foreign investors, and (or) among consortia, corporations, and joint ventures formed in Peru or abroad. Municipalities and Regional governments in areas where mineral resources (metals and industrial minerals) are exploited receive 50% of the taxes collected to be invested in education and social programs (health, housing, and others) in conformance with the Canon Minero (Ministry Resolution No. 266–2002–EF/15 of May 1, 2002). Contracts may be signed by investors, and the Government guarantees the stability of legal commitments and taxes. To increase protection of investors' interests, Peru signed agreements with the World Bank's Multilateral Investment Guarantee Agency in April 1991, which was authorized by Legislative Resolution No. 25312, and with the Overseas Private Investment Corporation in December 2002, which was authorized by Legislative Decree law No. 25809 (Ministerio de Energía y Minas, 2013c; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a, c, d).

The Dirección General de Asuntos Ambientales (DGAA) of the Ministerio de Energía y Minas (MEM) has the responsibility to address environmental problems that result from energy and mining activities and is mandated to implement environmental laws and regulations, such as Legislative Decree No. 613 of September 1990 (the environmental code) and Supreme Decree No. 016–93–EM of April 28, 1993 (the environmental regulation). Peru's sustainable development model for the mining and energy sectors began in 1993 with the development of regulations and procedures for the gradual reduction of pollution, which include economic development and environmental protection policies. Mineral producers must comply by adjusting their ongoing operations to permissible effluent levels and developing their new operations using clean technologies (ProInversión—Agencia de promoción de la inversión privada—Perú, 2013b, c).

More specifically, the DGAA evaluates and proposes the environmental regulations for the mining and energy sectors (which include the maximum emission levels that are compatible with the internationally accepted limits set by the United Nations and the World Bank), approves environmental impact assessments for new operations and environmental adjustment and management programs for ongoing ones, and administers the national environmental information system. The MEM is authorized to manage environmental affairs in the mineral sector, such as by establishing the environmental protection policy and maximum allowable levels for effluents, signing environmental administrative stability agreements, evaluating the environmental impact of operations, determining responsibilities, and imposing administrative sanctions. The oil companies, in particular, were under pressure because the number of operations in the Amazon Rain Forest—one of the world's most sensitive ecosystems—was increasing (Ministerio de Energía y Minas, 2013c; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a, d).

The Government Agency Perúpetro S.A. was created on November 18, 1993 (law No. 26221) to promote investments in the Peruvian hydrocarbon sector. Perúpetro negotiates, signs, and administers hydrocarbon contracts. It is excluded from the privatization process but is authorized to participate in the exploration for and production of hydrocarbons (law No. 28244 of June 2, 2004). Perúpetro is also involved in the transportation, refining, and marketing of refined products and other derivatives of petroleum. The agency attracted investment of more than \$1.9 billion to the hydrocarbon sector for development taking place between 2014 and 2016 (Perúpetro S.A., 2013a, b).

Production

In 2012, increases in mine production were led by copper (9.4%), lead (8.0%), zinc (2.0%), and silver (1.8%); decreases in mineral production included molybdenum (12.3%), tin (9.6%), iron (Fe content, 4.7%), and gold (2.9%); and no production was reported for antimony, arsenic, bismuth, lead metal, pig iron, and tellurium. Increases in industrial mineral production were led by diatomite (830.7%), feldspar (126.4%), kaolin (86.4%), and common clay (7.5%); production decreases included that of

quartz (29.5%), among others. The hydrocarbon sector's output increased by only 2.3%. Production of natural gas increased by 4.4%, and crude oil output decreased by 3.9%; this small decrease was expected to be reversed in the near future owing to the signing of 50 oil exploration and long-term production contracts in 2012 (table 1; Banco Central de Reserva del Perú, 2013, p. 32–36; Ministerio de Energía y Minas, 2013a, p. 5–8; 2013d, e; U.S. Energy Information Administration, 2013).

Structure of the Mineral Industry

The major mining companies active in Peru were, in order of amount invested in new mine projects, Newmont Mining Corp. of the United States in partnership with Compañía Minera de Minas Buenaventura S.A.A. (Buenaventura); Freeport-McMoran Copper and Gold Inc. of the United States in partnership with Sociedad Minera Cerro Verde S.A.A. and Buenaventura; Anglo American Quellaveco S.A. (a subsidiary of Anglo American plc of the United Kingdom); Southern Copper Corp. (a subsidiary of Grupo Mexico, S.A. de C.V.); and HudBay Minerals Inc. of Canada, among others (Banco Central de Reserva del Perú, 2013, p. 17; Ministerio de Energía y Minas, 2013a, p. 21–22; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a, b).

According to the MEM, the stability of the Peruvian judicial framework encouraged investments in mining projects, and leading foreign mining companies operating in Peru committed to invest \$57.4 billion in 2012 compared with \$53.6 billion in 2011. Most of the investment was from, in order of investment volume, China (\$13.8 billion, or 24.1%), the United States (\$10.0 billion, or 17.3%), Canada (\$9.7 billion, or 16.8%), Switzerland (\$5.2 billion, or 9.1%), the United Kingdom (\$5.0 billion, or 8.7%), Australia (\$3.8 billion, or 6.6%), Mexico (\$3.5 billion, or 6.0%), Brazil (\$2.4 billion, or 4.1%), and South Africa (\$1.2 billion, or 2.1%). In 2012, the status of Peru's 50 leading mining projects was as follows: those in the exploration phase, 46.9% (\$26.9 billion); projects with approved environmental impact assessments (EIAs), 34% (\$19.5 billion); and expansion projects, 16.2% (\$9.3 billion) (Ministerio de Energía y Minas, 2013b, p. 1–3; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a–c).

The following were some of the leading investors with exploration projects: Anglo American Michiquillay S.A. of the United Kingdom and Rio Tinto Group of Australia and the United Kingdom in base metals; Jiangxi Copper Co. (Galeño), Junefield Group S.A. (Cercana), and Zijin Mining Group (Rio Blanco) of China in copper; Nanjinzhaoh Group Co. (Pampa de Pongo) and Cuervo Resources Inc. (Cerro Ccopane-Hullique) in iron ore; Zincore Metals Inc. (Accha) of Canada in lead and zinc; Focus Venture Inc. (Fosfatos Mantaro) in phosphates; and Americas Potash Peru S.A. (Salmuera de Sechura) in potash (Ministerio de Energía y Minas, 2013b, p. 1–3).

The following were some of the leading investors with approved EIAs, and their commitments (by order of commitment amount): Minera Yanacocha S.R.L. (which was owned mainly by Newmont and Buenaventura) committed to invest \$4.8 billion to operate the Minas Conga copper-gold mine, which is located in the Cajamarca Region and was to start

operations by 2015; Xstrata Perú S.A. (a subsidiary of Xstrata Copper of Switzerland) committed to invest \$4.2 billion in Las Bambas copper project, which is located in the Apurímac Region and was to start operations by 2014; Anglo American Quellaveco committed to invest \$3.0 billion to operate the Quellaveco copper mine, which is located in the Moquegua Region and was to start operations by 2014; and Minera Chinalco Perú S.A. (a subsidiary of Chinalco-Aluminum Corp. of China) committed to invest \$2.2 billion to operate the Toromocho copper mine, which is located in the Junín Region and was to start operations by the third quarter of 2014 (Ministerio de Energía y Minas, 2013a, p. 16–17; 2013b, p. 1–3; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a, c).

The following were some of the leading investors with expansion projects and their commitments (by order of commitment amount): Sociedad Minera Cerro Verde (a subsidiary of Freeport-McMoran Copper) committed to invest \$4.4 billion to expand the Cerro Verde Mine, which is located in the Arequipa Region and was to start expanded operations by 2013; Shougang Corp. of China committed to invest \$1.0 billion to expand the Marcona iron mine, which is located in the Ica Region and was to start expanded operations by early 2013; and Barrick Gold Corp. of Canada committed to invest \$1.0 billion to expand the Pierina gold mine, which is located in the Cajamarca Region and was to start expanded operations by 2013 (Ministerio de Energía y Minas, 2013a, p. 16; 2013b, p. 1–2; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a–c).

The structure of the Peruvian mineral industry continued to change owing to the establishment of consortia in such deregulated industries as petroleum and natural gas and of joint ventures in energy and mining projects. Increased numbers of domestic and foreign companies were participating in prospecting, exploration, production, and trade of minerals, natural gas, and petroleum. Foreign companies contracting with Perúpetro in the energy sector and with the state agency Centromin Perú S.A. in the mineral sector included Vale S.A. and Grupo Votorantim Metais S.A. of Brazil; Dia Bras Exploration Inc. and Teck Cominco Ltd. of Canada; Shougang Corp. and Zijin Mining Group of China; Marubeni Corp., Mitsubishi Corp., and Mitsui & Co., Ltd. of Japan; SK Energy Co. Ltd. of the Republic of Korea; Industrias Peñoles S.A.B. de C.V. of Mexico; Repsol YPF S.A. of Spain; Xstrata Plc. of Switzerland; Anglo American, BHP Billiton plc., Gold Fields Ltd., and Inkoa Holdings Ltd. of the United Kingdom; and Hunt Oil Co. and Newmont Mining Corp. of the United States, among others (table 2; Ministerio de Energía y Minas, 2013a, p. 18–19; 2013b, p. 1–3; Perúpetro S.A., 2013a, b; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a–d).

Private domestic interests owned most of the medium- and small-sized mining operations. More than 350 foreign mining companies had been established in Peru since 1990. Crude oil was transported through the country's 1,819 kilometers (km) of pipeline; natural gas and natural gas liquids (NGLs), through 2,205 km of dual pipeline; and refined products, through 15 km of pipeline. Ports that were important to the mineral industry included Callao, Chimbote, Ilo, Matarani,

Paita, Puerto Maldonado, Salaverry, San Martín, San Nicolás, and Talara on the Pacific Ocean, and Iquitos Pucallpa and Yurimaguas on the Amazon River and its tributaries. Peru had an installed electricity-generating capacity of 5,050 megawatts (MW), about 90% of which was in hydroelectric plants. The country's energy mix, by source, was hydroelectric (79%), fossil fuel (20%), and others (1%) (Ministerio de Energía y Minas, 2013d; U.S. Central Intelligence Agency, 2013; U.S. Energy Information Administration, 2013).

Mineral Trade

In 2012, Peru's exports amounted to about \$45.6 billion compared with \$46.3 billion in 2011, which was 1.5% lower than the value of exports in 2011, and its imports amounted to about \$41.1 billion compared with \$37.0 billion in 2011, which was 11.1% higher than the value of imports in 2011. The country's total trade balance recorded a surplus of about \$4.5 billion compared with a surplus of \$9.3 billion in 2011. Peru's mining sector accounted for about \$26.6 billion of total export revenues in 2012 compared with almost \$27.8 billion of total export revenues in 2011. In 2012, Peru's petroleum and natural gas sector accounted for about \$5.0 billion of total export revenues compared with \$4.7 billion of total export revenues in 2011. In 2012, Peru's petroleum and derivatives exports amounted to about \$3.6 billion, and natural gas exports accounted for \$1.4 billion compared with \$3.4 billion and about \$1.3 billion in 2011, respectively. Peru's imports of crude oil and lubricants amounted to about \$5.9 billion in 2012 compared with more than \$5.7 billion in 2011 (Banco Central de Reserva del Perú, 2013, p. 78, 276; Ministerio de Energía y Minas, 2013a, p. 9–11; Perúpetro S.A., 2013b; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a–d).

In 2012, China and the United States continued to be Peru's leading trading partners. The destination markets of Peruvian exports as a percentage of total exports were China (17%); the United States (13%); Switzerland (11%); Canada (8%); Japan (6%); Chile, Germany, and Spain (4%, each); and the Republic of Korea (3%), among others. Peru's leading import partners were the United States (24.4%), China (13.9%), Brazil (6.3%), Argentina (5.4%), Chile (4.7%), Ecuador (4.5%), and Colombia (4.2%), among others. The United States, China, Brazil, Japan, and Chile, in order of the value of imported mineral commodities, were the main importers of gold, copper, and molybdenum. Peru sold about 13% of its exports to other members of the Mercado Común Andino (ANCOM), the members of which were Bolivia, Colombia, Ecuador, Peru, and Venezuela; about 3.3% to the Mercado Común del Cono Sur (MERCOSUR) member countries of Argentina, Brazil, Paraguay, Uruguay, and Venezuela and associate member countries Bolivia and Chile; and 18.6% to other Latin American countries (Banco Central de Reserva del Perú, 2013, p. 67–73; Ministerio de Energía y Minas, 2013a, p. 9–11; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013b; U.S. Central Intelligence Agency, 2013).

Commodity Review

Metals

Copper.—Peru produced about 1.2 million metric tons (Mt) of copper (Cu content) in 2012 compared with almost 1.1 Mt in 2011. The country remained the world's third-ranked producer and accounted for about 7.3% of world production. The country's copper metal exports in 2012 totaled more than 1.37 Mt and were valued at almost \$10.5 billion compared with 1.26 Mt valued at more than \$10.7 billion in 2011; this was about a 2.0% decrease in value compared with that of 2011 and was owing to the decrease in the price of copper to \$3.47 per pound in 2012 from \$3.87 per pound in 2011 (Banco Central de Reserva del Perú, 2013, p. 71–72, 276; Ministerio de Energía y Minas, 2013a, p. 5, 10; 2013e).

Owing to China's demand for copper, Minera Chinalco Perú was planning to develop the Toromocho copper deposit, which contains 2.4 billion metric tons (Gt) of reserves and resources at a grade of 0.45% copper equivalent, and to produce 275,000 metric tons per year (t/yr) of copper metal by the third quarter of 2014. Rio Blanco Copper S.A. (a subsidiary of Zijin Mining Group of China) was also planning to develop the Rio Blanco copper project, which is located in the Region of Piura and contains 1.3 Gt of proven and probable reserves at a grade of 0.57% copper equivalent, to produce 200,000 t/yr of copper metal by 2019 (Ministerio de Energía y Minas, 2013b, p. 13, 45).

In 2012, planned investments in Peru of about \$57.4 billion included mineral projects with advanced exploration, feasibility studies, and expansion work. About 63% (\$36.4 billion) of the planned investments were for leading copper projects. Of these projects, those with feasibility studies included Minas Conga (\$4.8 billion), which is located in the Region of Cajamarca and was owned by Minera Yanacocha, and Las Bambas, which is located in the Region of Apurímac and was owned by Xstrata Perú. Expansion projects included that of the Cerro Verde Mine (\$4.4 billion), which is located in the Region of Arequipa and owned by Sociedad Minera Cerro Verde S.A.A. Exploration projects included Haquira (\$2.8 billion), which is located in the Region of Apurímac and owned by Minera Antares Peru S.A.C. of Canada; Galeno (\$2.5 billion), which is located in the Region of Cajamarca and owned by Jiangxi Copper Co. of China; and Los Calatos (\$2.2 billion), which is located in the Region of Moquegua and owned by Minera Hampton Perú S.A.C. of Australia (Banco Central de Reserva del Perú, 2013, p. 18–19; Ministerio de Energía y Minas, 2013b, p. 1–3, 11–13).

Gold.—In 2012, the country's gold production of 161.3 metric tons (t) was lower than the revised amount of 166.2 t in 2011. Of this total gold output, large-, medium-, and small-scale producers reported almost 150.0 t of output in 2012 compared with a revised amount of 143.7 t in 2011, which was an increase of about 4.4%. An unknown number of gold placers and informal individual miners reported production of about 11.4 t in 2012 compared with almost 22.5 t in 2011, which was a decrease of more than 49.3%. This significant decrease in the amount of gold produced by placers and informal miners was owing to the Government's implementation process of

formalizing gold mining in the country. As a result, Peru's gold exports in 2012 amounted to about 177.3 t (5.7 million troy ounces) valued at about \$9.6 billion compared with about 200 t (6.4 million troy ounces) valued at more than \$10.1 billion in 2011; the decrease in the export value was owing mainly to lower gold output, and was despite the increase in the price of gold to \$1,672 per troy ounce in 2012 from \$1,570 per troy ounce in 2011 (Banco Central de Reserva del Perú, 2013, p. 33, 276; Ministerio de Energía y Minas, 2013a, p. 5, 10; 2013e).

In 2012, more than 12.5% (\$7.2 billion) of planned investments were for leading gold projects, including the expansion at Lagunas Norte (\$400 million), which is located in the Region of La Libertad and owned by Minera Barrick Misquichilca S.A. (Canada); and the exploration projects at Minas Chucapapa (\$1.2 billion), which is located in the Region of Moquegua and owned by Canteras del Hallazgo S.A.C., and at Minas Chaquicocha (\$400 million), which is located in the Region of Cajamarca and owned by Minera Yanacocha S.R.L., among others (Banco Central de Reserva del Perú, 2013, p. 31–33; Ministerio de Energía y Minas, 2013b, p. 2, 9–10).

Iron Ore.—Shougang Hierro Perú S.A.A. (a subsidiary of China's Shougang Corp.) continued to be Peru's sole iron ore producer (output was exclusively from the Marcona iron ore mine in the Region of Ica). The Marcona Mine's output decreased to about 6.8 Mt of iron content in 2012 from more than 7.1 Mt in 2011, or by 4.2%. In 2012, iron ore exports increased to 10 Mt valued at \$856 million from 9.2 Mt valued at \$1.02 billion in 2011, which was a decrease in value of more than 16.1%. This decrease in the value of iron ore was in response to lower prices (\$88 per metric ton in 2012 compared with \$111.3 per metric ton in 2011). In 2012, about 12.3% (\$7.1 billion) of the planned investments were for leading iron ore projects, including such projects as Shougang's Marcona Mine expansion (\$1.5 billion), which was to be initiated in 2014, and the following exploration projects: Pampa de Pongo (\$3.3 billion), which is located in the Region of Arequipa and owned by Jinzhao Mining Peru S.A. (China) and which was expected to be completed by 2015, and Hierro Apurimac (\$2.3 billion), which is located in the Region of Apurimac and owned by Apurimac Ferrum S.A. (Australia), and for which operations were planned to start by 2015 (Banco Central de Reserva del Perú, 2013, p. 35; Ministerio de Energía y Minas, 2013a, p. 5, 10; 2013b, p. 2, 9; 2013d).

Lead, Silver, and Zinc.—The production of lead increased by 8.0% to 248,659 t of contained lead in 2012 from 230,199 t (revised) in 2011 mainly as a result of increased production in El Brocal's and the Volcan's lead mines. Exports of metal lead amounted to 1.14 Mt valued at more than \$2.5 billion in 2012 compared with 986,000 t valued at about \$2.4 billion in 2011; prices, however, decreased to \$1.00 per pound in 2012 from \$1.13 per pound in 2011. The production of silver content in 2012 increased by almost 1.8% to 3,479 t from a revised 3,419 t in 2011. The export value of silver amounted to \$209 million in 2012 compared with \$219 million in 2011; prices decreased to \$30.0 per troy ounce in 2012 from \$33.7 per troy ounce in 2011. Peru's zinc industry produced about 1.28 Mt of zinc in concentrates in 2012 compared with about 1.26 Mt in 2011, which was an increase of almost 2.0%. The value of

exports of zinc amounted to more than \$1.3 billion in 2012 compared with almost \$1.5 billion in 2011; prices decreased to \$0.610 per pound in 2012 from \$0.686 per pound in 2011 (Banco Central de Reserva del Perú, 2013, p. 34–35, 71–72; Ministerio de Energía y Minas, 2013a, p. 5, 10; 2013b, 1–2; 2013e).

Tin.—Production of tin concentrate from Minsur's San Rafael Mine, which is located in the Region of Mariategui, was 26,105 t in 2012 compared with 28,882 t in 2011. Production was continuing to decrease because of depleting reserves. Minsur's tin smelting and refining operations, which were located south of Lima in Pisco, produced 24,811 t of metal in 2012 compared with 32,290 t in 2011. Peru exported 25,000 t valued at \$526 million in 2012 compared with 28,800 t valued at \$755 million in 2011; prices decreased to about \$9.50 per pound in 2012 from about \$11.90 per pound in 2011 (Banco Central de Reserva del Perú, 2013, p. 32, 255, 276; Ministerio de Energía y Minas, 2013a, p. 5, 10).

Industrial Minerals

Phosphate Rock.—The Bayóvar phosphate project is located in the Sechura Desert in the Region of Piura. It is one of the largest phosphate rock deposits in South America. The Bayóvar project is an open pit mine capable of producing 15 million metric tons per year (Mt/yr). The cornerstone for the project was laid by Vale on September 8, 2008. In July 2010, Vale sold minority shares in the project to Mosaic Co. of the United States (35%) and Mitsui & Co., Ltd. of Japan (25%); Vale (40%) retained control of the project. Since 2010, Vale had been operating the Bayóvar open pit mine with its subsidiary Cía. Minera Miski Mayo S.A.C. (CMM) of Brazil. CMM was planning a \$520 million expansion of the open pit mine, which was to be completed by 2014. In 2012, CMM's phosphate deposits at the Bayóvar project produced a revised 10.3 Mt of crude phosphate rock compared with a revised 8.9 Mt in 2011. The 90,000-metric-ton-per-day (t/d) fertilizer plant that was operated by CMM produced 2.6 Mt (revised) of phosphate rock (P_2O_5) in 2012 compared with 2.5 Mt (revised) of P_2O_5 in 2011. CMM's Bayóvar open pit contained 225.4 Mt of phosphate reserves with a minimum grade of 17.2% P_2O_5 ; the planned production capacity of the open pits was 5.8 Mt/yr of phosphate concentrate with a minimum grade of 30% P_2O_5 , which would be used to produce fertilizers. In 2012, Vale continued exporting phosphate rock to Brazil, India, Mexico, and the United States (Ministerio de Energía y Minas, 2013b, p. 8; 2013e; Vale S.A., 2013a, p. 67; 2013b).

Mineral Fuels

Coal.—Peru's largest coal deposits are located at Alto Chicama in the Region of La Libertad. Other known coal deposits occur in the Cuenca del Santa in the Region of Marañón and the coal basins of Goyllarisquiza and Hatun Huasi in the Region of Caceres in central Peru. In 2012, Peru's recoverable coal reserves were estimated to be 1.25 Gt, and coal production was 226,358 t compared with 182,481 t in 2011. The estimated consumption of coal was more than

1.3 Mt/yr, and imports were about 1.2 Mt/yr and came mostly from Colombia (tables 1, 3; Ministerio de Energía y Minas, 2013e; U.S. Energy Information Administration, 2013).

Natural Gas and Petroleum.—Peru LNG, S.R.L., which was a consortium among Hunt Oil Co. of the United States, Repsol S.A. of Spain, and SK Energy Co. Ltd. of the Republic of Korea, inaugurated the Chiquintirca liquefied natural gas (LNG) project in 2010. Hunt Oil was the majority partner and principal operator of the \$3.8 billion Chiquintirca LNG project, which was located in the Andes Mountains in the Region of Ayacucho. This project included the LNG plant located about 170 km south of Lima, along with a 408-km pipeline over the Andean Mountains and a marine terminal located in Pampa Melchorita near Ica City. The LNG plant had the capacity to process about 19.2 billion cubic meters (677,000 million cubic feet) per day and to produce about 4.5 Mt/yr of LNG. Perú LNG contracted Repsol Comercializador de Gas S.A. to export LNG to North America and other markets worldwide. In 2012, Repsol made one of its largest discoveries of natural gas [42.5 trillion cubic meters] in the Sagari field in the Region of Cusco (Repsol S.A., 2012; Hunt Oil Co., 2013; Perú LNG, S.R.L., 2013).

In 2012, Peru's reserves (proven, probable, and possible) of crude oil amounted to 2.1 billion barrels (Gbbbl); of NGLs, 1.5 Gbbbl; and of natural gas, 435 billion cubic meters. The gasfields with the largest reserves were the Aguaytia, which is located about 41 km west-northwest of Pucallpa in the Region of Ucayali, and the Camisea gasfields in the Ucayali Basin, Region of Cusco. Natural gas production increased to 11,859 million cubic meters in 2012 from a revised 11,360 million cubic meters in 2011. Pluspetrol S.A. of Argentina remained the leading producer in Peru, accounting for 78% of the domestic production, followed by Aguaytia S.A. of Peru (11%), Petróleo Brasileiro S.A. (Petrobrás) of Brazil (5%), and others (6%) (Ministerio de Energía y Minas, 2013d; U.S. Energy Information Administration, 2013).

In 2012, Peru's total crude oil production decreased to about 24.4 million barrels (Mbbbl) from about 25.4 Mbbbl in 2011. Production of petroleum derivatives decreased to about 71.6 Mbbbl from about 74.0 Mbbbl in 2011. Peru imported an average of 99,600 barrels per day (bbl/d) of crude oil and petroleum products to satisfy its internal consumption of 160,000 bbl/d. Peru's total crude oil production in 2012 came from Pluspetrol (40%), Petrobrás (20%), Petrotech (15%), and others (25%) (table 1; Banco Central de Reserva del Perú, 2013, p. 36; Ministerio de Energía y Minas, 2013d; U.S. Energy Information Administration, 2013).

Outlook

According to ProInversión, Peru continues to be on a path of economic growth owing to the country's macroeconomic stability and laws that encourage investment by way of new joint ventures and consortia, privatizations, and direct acquisitions, which are expected to continue to generate additional investments. The mineral sector (metals, industrial minerals, and mineral fuels) is expected to continue to attract capital flows in 2013 through 2016. Increased demand for copper, iron ore, lead, and silver, and increased metal prices are likely to encourage

mining companies to invest in expanding and modernizing their operations. Camisea's LNG exports to China, the member countries of the MERCOSUR, and the signatories to the North America Free Trade Agreement (NAFTA) (Canada, Mexico, and the United States), as well as to other markets are expected to lead to increased mineral commodity exports. Thus, Peru's LNG industry and the income that it is expected to generate could provide for development and growth of the country's economy for decades to come (Ministerio de Energía y Minas, 2013a, p. 5, 10; 2013d; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a–c).

According to the MEM, most of the companies operating in Peru are from Australia, Brazil, Canada, China, the European Union, Mexico, Switzerland, and the United States. Peru's legal framework is expected to continue to attract foreign investment in the fields of energy, mining, and related industries. The inflow of long-term private capital to the mineral sector, which amounted to more than \$57.4 billion in 2012, is projected to increase to \$70 billion during 2013 and 2014 (Banco Central de Reserva del Perú, 2013, p. 19; Ministerio de Energía y Minas, 2013a, p. 14–15; 2013b, p. 1–3; ProInversión—Agencia de promoción de la inversión privada—Perú, 2013a).

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TABLE 1
PERU: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011	2012 ^p
METALS					
Antimony, metal	531	145	--	--	--
Arsenic, white ²	4,822	301	--	--	--
Bismuth, metal	1,061	423	--	--	--
Cadmium, metal	371	289	357	572	684
Copper:					
Mine output, Cu content	1,107,789	1,113,454	1,094,123	1,094,971	1,197,530
Metal:					
Smelter	306,584	325,788	312,968	299,004	290,088
Refined, primary:					
Electrowon	160,078	162,795	153,022	140,341	101,007
Electrolytic	303,855	260,618	240,616	227,320	210,119
Total	463,933	423,413	393,638	367,661	311,126
Gold: ³					
Mine kilograms	163,162	166,780	145,109	143,697 ^r	149,913
Placer do.	16,708	17,215	18,975	22,490	11,412
Total do.	179,870	183,995	164,084	166,187 ^r	161,325
Indium ^e do.	5,488 ^{r, 4}	5,976 ^{r, 4}	2,000	2,000 ^r	2,000
Iron and steel:					
Iron ore and concentrate:					
Gross weight thousand metric tons	7,823	6,698	9,160	10,626	10,132
Fe content do.	5,244	4,490	6,140	7,123	6,792
Metal: ⁵					
Pig iron do.	412 ^r	-- ^r	-- ^r	-- ^r	--
Direct reduced iron	74	100	100	93	98
Steel:					
Crude thousand metric tons	1,001 ^r	718 ^r	880 ^r	877 ^r	981
Hot-rolled products	1,000	876	1,076	926	1,211
Lead:					
Mine output, Pb content	345,109	302,459	261,990	230,199 ^r	248,659
Metal	114,259	26,599	-- ^r	-- ^r	--
Molybdenum, mine output, Mo content	16,721	12,297	16,963	19,141	16,790
Selenium, metal, refined kilograms	60,000 ^e	61,000	59,000	54,000	54,000 ^e
Silver:					
Mine output, Ag content	3,686	3,923	3,640	3,419 ^r	3,479
Metal, refined	1,190	445	156	171	159
Tellurium, metal kilograms	28,000	7,000	--	--	--
Tin:					
Mine output, Sn content	39,037	37,503	33,848	28,882	26,105
Metal ⁶	38,865	34,388	36,451	32,290	24,811
Tungsten, metal ⁷	456	634	716	546 ^r	365
Zinc:					
Mine output, Zn content	1,602,597	1,512,931	1,470,450	1,256,383	1,280,975
Metal	190,324	149,494	223,112	313,714	319,280
INDUSTRIAL MINERALS					
Barite	45,199	27,881	52,275	86,790	76,007
Boron materials, crude (borates)	349,891	187,221	292,855	198,500	104,072
Cement, hydraulic ^e thousand metric tons	6,862 ⁴	8,100	8,100	8,100	8,100
Chalk	463,134	321,012	325,000	322,000	321,711
Clays:					
Bentonite	31,557	119,452	44,266	27,534	22,977
Kaolin	13,215	9,655	16,678	18,169	33,863
Common clay	1,720,894	2,048,130	1,120,043	1,021,502	1,098,267

See footnotes at end of table.

TABLE 1—Continued
PERU: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011	2012 ^p
INDUSTRIAL MINERALS—Continued					
Diatomite	12,206	9,946	10,500	10,100	93,996
Feldspar	13,333	5,154	3,589 ^r	11,645	26,359
Gypsum, crude	335,000 ^e	335,000	321,012	331,000	345,000
Phosphate rock:					
Crude, gross weight thousand metric tons	-- ^r	-- ^r	1,134 ^r	8,889 ^r	10,338
P ₂ O ₅ content do.	-- ^r	-- ^r	2,470 ^r	2,540 ^r	2,560
Salt, all types	1,276,271	1,567,279	1,570,000	1,565,000	1,199,585
Stone and sand and gravel:					
Stone: ^e					
Limestone ⁸ thousand metric tons	10,365	10,304	11,528	11,581	14,567
Marble ⁸	596	338	--	--	9,885
Onyx	150	150	150	150	3,578
Quartz and quartzite (crushed)	123,542 ⁴	124,000 ^e	124,000	124,000	87,481 ⁴
Slate	42,436 ⁴	16,440 ⁴	16,500	16,500	16,500
Travertine ⁸	231,924	97,937 ^r	105,392	116,073	148,515
Sand and gravel:					
Stone (construction) thousand metric tons	5,827	5,541	4,613	4,372	4,624
Sand do.	2,892	2,908	1,909	1,076	1,625
Talc	18,003	13,359	19,767	28,296	31,559
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Anthracite, run-of-mine	65,038	66,244	63,381	76,928	123,771
Bituminous, run-of-mine	65,649	75,845	57,571	105,553	102,587
Total	130,687	142,089	120,952	182,481	226,358
Natural gas:					
Gross million cubic meters	3,397 ^r	3,474 ^r	7,258 ^r	11,360 ^r	11,859
Marketed do.	1,750	2,003	2,251	3,523 ^r	3,678
Natural gas liquids thousand 42-gallon barrels	15,903 ^r	27,100 ^r	30,832 ^r	30,354 ^r	31,596
Petroleum:					
Crude do.	28,027	25,927	26,531 ^r	25,387	24,396
Refinery products:					
Liquefied petroleum gas do.	2,468	2,177	2,424	2,221	2,196
Gasoline, motor do.	13,355	14,713	15,185	14,037	13,773
Jet fuel do.	4,416	4,703	5,290	5,200	5,851
Kerosene do.	598	338	80	64	62
Distillate fuel oil do.	19,519	25,819	24,606	30,979	30,397
Lubricants do.	326	331	315	281	276
Residual fuel oil do.	13,874	10,263	10,124	9,207	9,034
Asphalt do.	1,113	1,663	1,841	1,436	1,504
Other ⁹ do.	7,532	9,689	14,755	10,601	8,457
Total do.	63,201	69,696	74,620	74,026	71,550

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^pPreliminary. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through April 25, 2014.

²Output reported by Doe Run Perú S.R.L.

³Peru's placer gold production was reported.

⁴Reported figure.

⁵Output reported by Worldsteel Association, Steel Statistical Yearbook, 2013.

⁶Output reported by Minsur S.A.'s smelter.

⁷Reported figure. Source: Malaga Inc.

⁸Reported figure. Source: Ministerio de Energía y Minas del Perú.

⁹Includes refinery fuel and losses.

TABLE 2
PERU: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Antimony	metric tons	Doe Run Perú S.R.L. (private, 100%)	Smelter at La Oroya, Junin Department	700
Barite		Barmine S.A. (private, 100%)	Santa Cruz de Cocachacra, Huarochiri, Lima Department	NA
Bentonite		Minerales Andinos S.A. (NL Industries Co., 90%)	Vichayal Mine, Piura Department	9
Bismuth	metric tons	Doe Run Perú S.R.L. (private, 100%)	Refinery at La Oroya, Junin Department	1,000
Cement		Cementos Lima S.A. (private, 100%)	Atocongo plant, Lima Department	3,500
Do.		Cementos Pacasmayo S.A.A. (private, 100%)	Pacasmayo plant, La Libertad Department	1,000
Do.		Cemento Andino S.A. (private, 100%)	East Lima plant, Lima Department	800
Do.		Cementos Yura S.A. (private, 100%)	Yura plant, Arequipa Department	300
Do.		Cementos Sur S.A. (private, 100%)	Arequipa plant, Arequipa Department	200
Copper		Southern Copper Corp. (SPCC) (Grupo Mexico, S.A. de C.V., 54.2%; Marmon Corp., 14.2%; Phelps Dodge Overseas Capital Corp., 14%; others, 17.6%)	Cuajone Mine, Moquegua Department	200
Do.		do.	Toquepala Mine, Tacna Department	170
Do.		do.	Cocotea, Simarrona, and Totoral Mines, Tacna Department	60
Do.		do.	Smelter at Ilo, Moquegua Department	320
Do.		do.	Refinery at Ilo, Moquegua Department	300
Do.		Compañía Minera Antamina S.A. (CMA) (BHP Billiton plc, 33.75%; Xstrata Copper, 33.75%; Teck Cominco Ltd., 22.5%; Mitsubishi Corp., 10%)	Antamina Mine, Huari, Ancash Department	350
Do.		do.	Antamina concentrator, Ancash Department	450
Do.		The Doe Run Resources Corp. (private, 100%)	Cobriza, Huancavelica Department	70
Do.		Doe Run Perú S.R.L. (private, 100%)	Smelter at La Oroya, Junin Department	65
Do.		do.	Refinery at La Oroya, Junin Department	60
Do.		Compañía Minera Atacocha S.A. (private, 100%)	Yanacancha Mine, Junin Department	30
Do.		Compañía Minera Condestable S.A. (private, 100%)	Condestable Mine, Junin Department	20
Do.		Glencore International AG (private, 100%)	Casapalca, Lima Department	60
Do.		Volcan Compañía Minera S.A.A. (private, 100%)	San Cristobal, Mahr Tunnel, and Andaychagua, Junin Department	60
Do.		Cía. Minera San Ignacio de Morococha S.A. (private, 100%)	Yauricocha, Junin Department	60
Do.		Xstrata Tintaya S.A. (Xstrata plc, 100%)	Tintaya Mine, Cusco Department	120
Do.		Sociedad Minera Cerro Verde S.A.A. (Freeport-McMoRan Copper and Gold Inc., 53.6%; Sumitomo Corp. and Sumitomo Metal Mining Co. Ltd., 21%; Compañía de Minas Buenaventura S.A.A., 18.5%; others, 6.9%)	Cerro Verde, Arequipa Department	270
Do.		do.	Electrowon plant at Cerro Verde, Arequipa Department	90
Dolomite		Minera Baribent S.A. (private, 100%)	Esperanza, Ancash Department	25
Gold	kilograms	Minera Yanacocha S.R.L. (Newmont Mining Corp., 51.35%; Compañía de Minas Buenaventura S.A.A., 43.65%; The World Bank's International Finance Corp., 5%)	Yanacocha, La Quinua, and Maqui-Maqui Mines, Cajamarca Department	110,000
Do.	do.	Minera Barrick Misquichilca S.A. (Barrick Gold Corp., 100%)	Pierina, Cajamarca Department	40,000
Do.	do.	Compañía Minera Poderosa S.A. (private, 100%)	Poderosa, La Libertad Department	2,000
Do.	do.	Compañía de Minas Buenaventura S.A.A. (private, 100%)	Orcopampa, Arequipa Department	5,000
Do.	do.	Minas Arirahua S.A. (private, 100%)	Arirahua, La Libertad Department	2,000
Do.	do.	Asesoría Contable Minera S.A. (private, 100%)	Ocoña, Santa Clarita, Explorator, and Molino de Oro, Arequipa Department	1,000
Do.	do.	Cía. Aurífera Río Inambari S.A. (Cía. Minera del Sur S.A., 84%, and Aurífera Claudia, 16%)	Río Caichive, Madre de Dios Department	200
Do.	do.	Minera Aurífera Retamas S.A. (private, 100%)	Retamas, La Libertad Department	5,500

See footnotes at end of table.

TABLE 2—Continued
PERU: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold— Continued	kilograms	Consorcio Minero Horizonte S.A. (private, 100%)	Parcoy, La Libertad Department	4,000
Do.	do.	Compañía Minera Sipán S.A.C. (private, 100%)	Sipán, Inca, La Libertad Department	4,800
Do.	do.	Compañía Minera Ares S.A.C. (private, 100%)	Ares, La Libertad Department	6,500
Do.	do.	Cía. Minera Aurífera Santa Rosa S.A. (private, 100%)	Santa Rosa, Puno Department	5,000
Do.	do.	Aruntani S.A.C. (private, 100%)	Florencia and Santa Rosa Mines, Moquegua Department	6,500
Iron ore		Shougang Hierro Perú S.A.A. (Shougang Corp., 100%)	Marcona, Ica Department	13,000
Lead		Doe Run Perú S.R.L. (private, 100%)	Smelter at La Oroya, Junín Department	150
Do.	do.		Refinery at La Oroya, Junín Department	125
Do.		Empresa Minera Los Quenuales S.A.	Izcaycruz, Lima Department	10
Do.	do.		Yauliyacu, Lima Department	15
Do.		Volcan Compañía Minera S.A.A. (private, 100%)	San Cristobal, Mahr Tunnel, and Andaychagua, Junin Department	70
Do.	do.		Paragsha, Cerro de Pasco Department	85
Do.		Compañía Minera San Ignacio de Morococha S.A. (private, 100%)	Yauricocha, Junin Department	5
Do.		Compañía Minera Atacocha S.A. (private, 100%)	Yanacancha Mine, Junin Department	40
Do.		Compañía Minera Milpo S.A. (private, 100%)	El Porvenir Mine, Cerro de Pasco Department	25
Do.		Compañía Minera Santa Luisa S.A. (private, 100%)	Huanzala Mine, Junin Department	40
Do.		Sociedad Minera El Brocal S.A.A. (private, 100%)	Colquijirca Mines, Cerro de Pasco Department	30
Do.		Corp. Minera Nor Perú S.A. (Pan American Silver Corp., 100%)	Quiruvilca, La Libertad Department	10
Molybdenum		Southern Copper Corp. (SPCC) (Grupo Mexico, S.A. de C.V., 54.2%; Marmon Corp., 14.2%; Phelps Dodge Overseas Capital Corp., 14%; others, 17.6%)	Cuajone, Moquegua Department and Toquepala, Tacna Department	NA
Do.		Sociedad Minera Cerro Verde S.A.A. (Freeport-McMoRan Copper and Gold Inc., 53.6%; Sumitomo Corp. and Sumitomo Metal Mining Co. Ltd., 21%; Compañía de Minas Buenaventura S.A.A., 18.5%; others, 6.9%)	Cerro Verde, Arequipa Department	2
Natural gas	million cubic meters per day	Pluspetrol Perú Corp. S.A. (Pluspetrol S.A., 36%; Hunt Oil Co., 36%; SK Corp., 18%; Tecpetrol del Perú S.A.C., 10%)	Camisea gas deposit, Cusco Department	NA
Do.	do.	Petrotech del Perú S.A. (Petroperú S.A., 100%)	Pucallpa, Loreto Department	120
Do.	do.	Aguaytia S.A. (Petroperú S.A., 100%)	Aguaytia gas deposit, Ucayali Department	80
Do.	do.	Pluspetrol S.A. (private, 100%)	Pucallpa, Loreto Department	60
Petroleum, crude	42-gallon barrels per day	Petrotech del Perú S.A. (Perúpetro S.A., 100%)	Onshore Piura Department; northeast and central jungle areas, Loreto Department	68,000
Do.	do.	Petróleo Brasileiro S.A. (Perúpetro S.A., 100%)	Pacific Coast, offshore Piura Department	30,000
Do.	do.	Pluspetrol S.A. (private, 100%)	Northeastern jungle, Loreto Department	90,000
Do.	do.	Occidental Petroleum Corp. (private, 100%)	Block 1—AB, northern jungle, Loreto Department	28,000
Petroleum products	do.	Refinería La Pampilla S.A. (RELAPASA)	La Pampilla refinery, Lima Department	110,000
Do.	do.	Petroperú S.A.	Talara refineries, Piura Department	62,000
Do.	do.	do.	Conchan refinery, Lima Department	15,500
Do.	do.	do.	Iquitos refinery, Loreto Department	10,500
Do.	do.	do.	Pucallpa refinery, Ucayali Department	3,300
Do.	do.	do.	El Milagro refinery, Amazonas Department	1,700
Do.	do.	Pluspetrol Norte S.A.	Shiviyacu refinery, Loreto Department	5,200
Phosphate rock		Cía. Minera Miski Mayo S.A.C. (CMM) (Vale S.A., 100%)	Bayovar phosphate mine, Piura Department	15,000
Silica sand		Minera Baribent S.A. (private, 100%)	Maria and Martin Mines, Junin Department	27

See footnotes at end of table.

TABLE 2—Continued
PERU: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Silver	kilograms	Empresa Minera Los Quenuales S.A.	Yauliyacu, Lima Department	150,000
Do.	do.	do.	Izcaycruz, Lima Department	20,000
Do.	do.	Doe Run Perú S.R.L. (private, 100%)	Refinery at La Oroya	1,100,000
Do.	do.	Co. Minera San Ignacio de Morococha S.A. (private, 100%)	Yauricocha, Junin Department	46,500
Do.	do.	Compañía de Minas Buenaventura S.A.A. (private, 83%, and Centromin Perú S.A., 17%)	Julcani and Huachocolpa Mines, Huancavelica Department, and Uchucchacua Mine, Lima Department	350,000
Do.	do.	Compañía de Minas Buenaventura S.A.A. (private, 100%)	Orcopampa Mine, Arequipa Department	161,000
Do.	do.	Volcan Compañía Minera S.A.A. (private, 100%)	San Cristobal, Mahr Tunnel, and Andaychagua, Junin Department	350,000
Do.	do.	Sociedad Minera Corona S.A. (private, 100%)	Hualgayoc, Cajamarca Department	175,000
Do.	do.	Compañía Minas Arcata S.A. (private, 100%)	Arcata, Arequipa Department	170,000
Do.	do.	Southern Copper Corp. (SPCC) (Grupo Mexico, S.A. de C.V., 54.2%; Marmon Corp., 14.2%; Phelps Dodge Overseas Capital Corp., 14%; others, 17.6%)	Ilo smelting and refining, Moquegua Department	150,000
Do.	do.	Compañía Minera Santa Luisa S.A. (private, 100%)	Huanzala Mine, Junin Department	53,000
Do.	do.	Compañía Minera Antamina S.A. (CMA) (BHP Billiton plc, 33.75%; Noranda Inc., 33.75%; Teck Cominco Ltd., 22.5%; Mitsubishi Corp., 10%)	Antamina Mine, Huari, Ancash Department	340,000
Do.	do.	Aruntani S.A.C (private, 100%)	Florencia and Santa Rosa Mines, Moquegua Department	14,500
Do.	do.	Compañía Minera Raura S.A. (private, 100%)	Raura, Lima Department	54,000
Do.	do.	Compañía Minera Milpo S.A. (private, 100%)	Yanacancha, Cerro de Pasco Department	110,000
Do.	do.	Compañía Minera Atacocha S.A. (private, 100%)	Yanacancha Mine, Junin Department	130,000
Do.	do.	Sociedad Minera El Brocal S.A.A. (private, 100%)	San Gregorio Mine, Cerro de Pasco Department	110,000
Do.	do.	Corp. Minera Nor Perú S.A. (Pan American Silver Corp., 100%)	Quiruvilca, La Libertad Department	125,000
Steel		Sider Corp. S.A. (Acerco S.A., 49.4%; Grupo Wiese, 49.4%; others, 1.2%)	Chimbote, Ancash Department	550
Do.		Empresa Laminadora del Pacífico S.A. (Acero Arequipa S.A., 100%)	Pisco, Ica Department	180
Tellurium	metric tons	Doe Run Perú S.R.L. (private, 100%)	Refinery at La Oroya	12
Tin	do.	Minsur S.A. (private 100%)	San Rafael Mine and plant, Puno Department	50,000
Do.	do.	do.	Pisco smelting and refining, Ica Department	45,000
Tungsten	do.	Minera Regina S.A. (private, 100%)	Palca XI, Puno Department	1,400
Do.	do.	Fermín Málaga Santolalla S.A. (private, 100%)	Pasto Bueno, Ancash Department	1,000
Zinc		Volcan Compañía Minera S.A.A. (private, 100%)	Cerro de Pasco, Cerro de Pasco Department; San Cristobal, Mahr Tunnel, and Andaychagua, Junin Department	320
Do.		Compañía Minera Antamina S.A. (CMA) (BHP Billiton plc, 33.75%; Xstrata Copper, 33.75%; Teck Cominco Ltd., 22.5%; Mitsubishi Corp., 10%)	Antamina Mine, Huari, Ancash Department	325
Do.	do.	do.	Antamina concentrator, Ancash Department	1,500
Do.		Empresa Minera Los Quenuales S.A.	Pachangara, Lima Department	200
Do.	do.	do.	Izcaycruz, Lima Department	40
Do.		Compañía Minera San Ignacio de Morococha S.A. (private, 100%)	Yauricocha, Junin Department	80
Do.	do.	do.	San Vicente Mine, Junin Department	70
Do.		Doe Run Perú S.R.L. (private, 100%)	Refinery at La Oroya	70

See footnotes at end of table.

TABLE 2—Continued
PERU: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Zinc—Continued	Votorantim Metais - Cajamarquilla S.A. (Grupo Votorantim Metais S.A., 99%, and employees, 1%)	Refinery at Cajamarquilla, Lima Department	130
Do.	Compañía Minera Atacocha S.A. (private, 100%)	Yanacancha Mine, Junin Department	60
Do.	Compañía Minera Raura S.A. (private, 100%)	Raura, Lima Department	45
Do.	Corp. Minera Nor Perú S.A. (Pan American Silver Corp., 100%)	Quiruvilca, La Libertad Department	25
Do.	Compañía Minera Santa Luisa S.A. (private, 100%)	Huanzalá Mine, Junin Department	50
Do.	Compañía Minera Milpo S.A. (private, 100%)	Yanacancha, Cerro de Pasco Department	80
Do.	Sociedad Minera El Brocal S.A.A. (private, 100%)	Colquijirca Mines, Cerro de Pasco Department	60
Do.	Empresa Administradora Chungar S.A.C. (private, 100%)	Animon Mine, Cerro de Pasco Department	60

Do., do. Ditto. NA Not available.