USGS
science for a changing world

2005 Minerals Yearbook

SPAIN

U.S. Department of the Interior
U.S. Geological Survey

December 2007

THE MINERAL INDUSTRY OF SPAIN

By Harold R. Newman

Spain occupies about 85% of the Iberian Peninsula and has some of the most mineralized territory in Western Europe, including the volcanic-hosted massive sulfide (VMS) deposits of the Iberian Pyrite Belt (IPB) of southern Spain. The IPB stretches from Seville in southern Spain to south of Lisbon in Portugal. The Belt comprises a series of Late Devonian to Mid-Carboniferous age rocks and is dominated by a thick Lower Carboniferous volcanic occurrence referred to as the Volcanic Sedimentary Sequence (VS). The VS is overlain by a southwest-prograding turbiditic sequence which, toward the south, is in turn overlain by a cover of Tertiary and Quaternary alluvial sediments. Within the VS, at least 80 VMS deposits are thought to exist. The IPB alone was estimated to have yielded 1.7 billion metric tons of sulfides. The main polymetallic deposits include the Aznalcollar, the Rio Tinto, the Scotiel, and the Tharsis. Mining activities have mostly ceased in these areas, although exploration was continuing (Cambridge Mineral Resources plc, 2005b§[1]).

Spain has a long history of mining and has attracted interest from many major mining companies for gold and base metal exploration and extraction. International mineral investment has been encouraged by several important factors, including the highly prospective geology of the IPB in the south and the gold discoveries at the Boinas, the Carles, and the El Valle deposits in the Rio Narcea Belt in the north. International mineral investment interest has been encouraged by a transparent legislative framework and a positive fiscal environment for the extraction of natural resources, the country's well-developed infrastructure and skilled workforce, a long mining tradition and track record of exploration success and mine development, and the availability of nonrefundable Government grants for both exploration and mine development (Cambridge Mineral Resources plc, 2005a§).

Minerals belong to the state, and the mineral industry was made up of a mix of state-owned, state and privately owned, and privately owned companies. In terms of the value of mine output of metallic and nonmetallic minerals and quarry products, Spain was one of the leading European Union (EU) countries (Nations Encyclopedia, 2005§).

Spain had a population of more than 42 million in 2005 and a land area of 504,782 square kilometers (km^2), which included the Balearic Islands and the Canary Islands. It is the second largest country in land area in Western Europe after France. In 2005, the gross domestic product (GDP) based on purchasing power parity was $1,089 billion, and the per capita income based on purchasing power parity was $26,320. The inflation rate was 3.4%, and the unemployment rate was about 9% (International Monetary Fund, 2006§).

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

Government Policies and Programs

Legislation to abolish state and private monopolies was passed in midyear 2002, and the Government continued with its program of liberalizing Spanish industries in 2005. The liberalization of the electricity and natural gas sectors and the loosening of labor market regulations were accomplished faster than required by the EU. Some of Spain's regional governments, such as Andalusia, Asturias, and Catalonia, have expressed interest in the development of mineral resources in their geographic areas.

Environmental Issues

Environmental regulatory bodies in Spain include the Ministerio de Agricultura (Ministry of Agriculture), the Ministerio de Medio Ambiente (Ministry of the Environment), and the Ministerio de Trabajo y Asuntos Sociales (Ministry of Labor and Social Matters).

A major environmental concern continued to be the pollution of the Mediterranean Sea. In 2005, Spain, along with France and Italy, permitted the flow of raw sewage into the sea and was considered to be a major polluter of the Mediterranean. Effluents from the offshore production of natural gas and petroleum, water quality and quantity, and deforestation were other environmental issues for the country (Haaretz, 2006§).

Production

Production of selected mineral commodities is listed in table 1. Primary aluminum metal production increased. With a few exceptions, mine production was lower than that of 2004. Production of mined lead and mined zinc ceased in the past few years owing to closures of the Aznalcollar, the Reocin, the Rubiales, the Sotiel, and the Tharsis Mines. Mine production of silver decreased. Total refined copper production increased along with secondary lead production. Gold production also increased. Quarried mineral products, particularly quarried stone, accounted for a significant share of the mineral production in Spain. Spain has been a major producer of mercury in the past; its annual mercury production varies according to demand and price. Spain was a leading producer of natural sodium sulfate, and slate and strontium minerals, and an important processor of domestic and imported raw materials.

Trade

Spain's international economic profile has grown appreciably in recent years. Spain was the fifth largest economy in the EU and the world's 15th ranked exporting country. Spain's accession to the EU in January 1986 required the country to open its economy to trade and investment, modernize its industrial base, improve infrastructure, and revise economic

legislation to conform to EU guidelines. Spain followed the U.S.-EU mutual recognition agreements in its application of nontariff regulations and conformity assessments procedures.

The share of foreign trade in Spain's GDP was about 55%. Spain's top three export partners were France, Germany, and Portugal. Its top three import partners were Germany, France, and Italy (Federation of International Trade Association, 2007§).

Outside of Europe, the largest and most important trading partner of Spain was the United States. U.S. trade with Spain for 2004 (the latest year for which data were available) is listed in tables 3 and 4. The United States accounted for 3.8% of Spain's exports and 3.6% of Spain's imports. The value of exports was $6.9 million and the value of imports was $8.6 million, resulting in a –$1.7 million trade balance (U.S. Census Bureau, 2007§).

Structure of the Mineral Industry

The structure of Spain's mineral industry is listed in table 2. Minerals belong to the state under an arrangement known as the Regalía Principal. The Mining Law of July 21, 1973, and the Hydrocarbon Law of October 7, 1998, govern the mineral industry. The Dirección General de Politica Energética y Minas (General Directorate of Energy Policy and Mines) implements these mineral laws. Sociedad Estatal de Participaciones Industriales (SEPI) [State Society of Industrial Participation], which was a state-owned holding company with mining as one sector in its portfolio, and the Instituto Geológico y Minero de España (IMEG) [Mining and Geological Institution of Spain] were the principal Government mineral-resource agencies. In the minerals sector, SEPI (formerly Instituto Nacional de Industria) was concerned mainly with the Hunosa Group (coal) and Minas de Almaden y Arrayanes S.A. (mercury), both of which are Government-owned. IMEG offers assistance in the fields of geology and mining to the private and public sectors through the production of maps and scientific publications.

Commodity Review

Metals

Bauxite and Alumina and Aluminum.—Alumina and primary aluminum were produced almost entirely by Alcoa Inespal S.A. (a subsidiary of Alcoa Inc. of the United States) both for domestic consumption and for export. Alcoa Inespal was a holding company with two primary aluminum plants and three flat-rolled sheet and extrusions plants. Alúmina Española S.A., which was located near San Ciprian, was Alcoa's only European producer of alumina and alumina hydrates.

Copper.—Inmet Mining Corp. of Canada announced that it had completed the acquisition of a 70% interest in Las Cruces copper project, which is a high-grade volcanic massive sulfide copper deposit located on the eastern edge of the IPB approximately 15 kilometers (km) northwest of Seville. The project had estimated proven and probable copper reserves of 17 million metric tons (Mt) grading 6.2% copper. The mine had a production capacity of 72,000 metric tons per year (t/yr), and the projected life of the mine was 15 years. All construction and development activities pertaining to the plant and open pit mine were expected to be completed by the first part of 2008 (Inmet Mining Corp., 2006§).

Inmet issued about 11.7% of its issued and outstanding shares to a wholly owned subsidiary of Leucadia National Corp. Leucadia would retain about 30% interest in Las Cruces (Inmet Mining Corp., 2005§).

Gold.—Cambridge Mineral Resources plc of the United Kingdom received a prefeasibility study on the development of the Lomero-Poyatos gold deposit in the IPB in southern Spain. The deposit was reported to contain an estimated indicated and inferred resource of about 20.6 Mt at a mean grade of 3.1 grams per metric ton (g/t) gold, 70 g/t silver, and 3.3% zinc. The study, which was compiled by Wardell Armstrong Ltd., indicated that the project would not generate a sufficiently attractive rate of return to justify its development. However, Wardel Armstrong recommended further work be done to increase Lomero-Poyatos's resource base and recommended a drilling program (Mining Journal, 2005).

Ormonde Mining plc of Ireland sought to build a mid-size suite of projects in Spain that would be focused primarily on gold. The Salomon project, which was located in northwest Spain, was the most advanced project and contained an estimated 20,000 kilograms (kg) of inferred resources of gold. Ormonde's objective was to establish mining operations that could produce copper, gold, and silver. Projects included La Zarza gold-copper project; the Salamanca gold project; the Salamon gold project; the Tracia gold project; and the Trives gold project (Ormonde Mining plc, 2006a§).

La Zarza gold-copper project was situated within a mining concession in the IPB in southwest Spain. Ormonde was earning a 70% interest in the project by providing €1.8 million ($2.2 million[2]) during a 3-year period under an option agreement with the property owner, Nueva Tharsis S.A.L. La Zarza deposit, which had been formerly mined for pyrite (iron sulfide only), contained copper, gold, and silver mineralization (Ormonde Mining plc, 2005a§).

Ventura Gold Corp. announced a core-drilling program at the Navelgas gold property, which is located in northwest Spain approximately 30 km south of Luarca, Province of Asturias. The property is located within the Navelgas Gold Belt, which comprises three major northeast-trending structural zones, La Freita, the Linares, and the Pola de Allande. The Navelgas Gold Belt is about 70-km long and 18-km wide and hosts more than 30 ancient Roman workings. It is similar geologically and structurally to the Rio Narcea Gold Belt (located about 30 km to the east), which hosts Rio Narcea Gold Mines Ltd.'s (RNG's) Carles and El Valle gold mines. Ventura's exploration program was focused on the Linares zone, where gold mineralization was found in a gold porphyry system that was discovered by RNG (CCN Matthews, 2005§).

Iron and Steel.—Compañia Española de Laminación S.L. (Celsa) produced about 1.6 million metric tons per year (Mt/yr) of steel in 2005. Heat lamination of billets was carried out in three mills, each with its own specifications. One mill produced corrugated round rods and rolls; a second mill produced flat

[2]Where necessary, values have been converted from EU euros (€) to U.S. dollars (US$) at the rate of €1.00=US$1.20.

bars, squares, angular and round rods, and light sections; and a third mill produced thick structural sections (Compañia Española de Laminación S.L., 2005§).

Corporacion Sidenor planned to start producing stainless steel by expanding its existing electric arc furnace at its works in Basauri, northern Spain. Sidenor intended to melt its first stainless steel in the beginning of 2006 after ordering the expansion from SMS Demag. Sidenor was Spain's leading special long-products, forgings, and moulded parts group (Metal Bulletin, 2005b).

A joint venture of Gerdau Group of Brazil, Santander Group of Spain, and executives of Sidenor signed a €463.3 million ($556 million) agreement to acquire the entire capital stock of Sidenor. The investment would allow Gerdau to enter the strategic EU market and provide it with access to large international automobile makers (Metal Bulletin, 2005a).

Alcan announced that it had completed its sale of Pechiney Électrométallurgie to Ferroatlántica S.L., which was Spain's leading ferroalloy producer. Initially announced in December 2004, the value of this transaction was expected to generate €120 million ($183 million). Alcan stated that the agreement was consistent with its strategy of focusing on aluminum and divesting noncore activities (Alcan Inc., 2005§).

Mercury.—Minas de Almadén y Arrayanes S.A. at Almaden was a leading producer of liquid mercury metal. Production was based on demand and price. Almaden is located about 200 km south of Madrid in the Province of Ciudad Real in the Brown Mountain range.

Nickel.—Flor Corp. completed construction of RNG's nickel plant in southwestern Spain at yearend 2004. The plant processed its first output in December 2004 from RNG's Aguablanca Mine. The nickel sulfide flotation plant was designed to treat 1.5 Mt/yr of ore and to produce a bulk copper-nickel-platinum-group metals (PGM) concentrate. The Aguablanca copper-nickel-PGM deposit was defined by more than 45,000 meters (m) of drilling. Formed by three zones of magmatic sulfide mineralization, the deposit occurs in a gabbro-norite intrusive along the north contact of the Santa Olalla granodiorite complex. The mineralization is similar in type to both the Voisey's Bay deposit in eastern Canada and the Noril'sk deposit in Russia. Nickel, copper, platinum, and palladium mineralization occurs within magmatic breccia bodies that form gossans at the surface. Pyrrhotite, pentlandite and chalcopyrite make up the dominant sulfide mineralization.

The Aguablanca Mine consists of an open pit and an onsite processing plant. Initial open pit mine life was estimated to be 10.5 years and the mine was expected to produce 8,200 metric tons per year (t/yr) of nickel metal. Underground ramp development and infill drilling was proceeding. The first phase of the program was to examine mineralization below the proposed limits of the open pit; this first phase was expected to be completed by yearend 2005 (Rio Narcea Gold Mines Ltd., 2005§).

Silver.—Ormonde reported that it had entered into an agreement with Polar Mining Oy (a Finnish subsidiary of Dragon Mining NL), which would allow Ormonde to acquire a 50% interest in the Valiña silver project in Lugo Province, northern Spain. Ormonde planned to focus on the potential for an open pit mine with a high-grade resource. Limited previous drilling returned a best interval of 6 m at grades of 451 g/t silver and 1.7 g/t gold, including 1 m at grades of 2,020 g/t silver and 5.8 g/t gold. Anomalous antimony, gold, lead, and silver soil geochemistry occurs over a strike length of 1.1 km. Ormonde's initial work program would entail metallurgical testing designed to investigate the possibility of producing a concentrate containing antimony, gold, and silver for direct sale to a smelter (Ormonde Mining plc, 2005b§).

Tungsten.—Ormonde announced that it had entered into an option agreement to buy the Barruecopardo tungsten tailings project, which is located in the permit area of its Salamanca gold project in western Spain. During the option period, which would run until September 2006, Ormonde would assess the grade, volume, and rate of recovery of the tungsten contained in the dumps and tailings. Recent sampling by Ormonde confirmed the presence of gold with the tungsten, and the company would evaluate that potential. The Barruecopardo Mine, which closed in the early 1980s, was one of Europe's largest tungsten operations at the time that it was closed (Ormonde Mining plc, 2006b§).

Zinc.—Asturiana de Zinc S.A. continued production at its San Juan de Nieva Castrillo plant. Asturiana's core business was the refining and production of zinc metal, mainly zinc ingots. The San Juan de Nieva plant, which had a capacity of 480,000 t/yr, was the leading single zinc smelter in the world and also one of the world's lowest-cost operations (Xstrata plc, 2005§).

Industrial Minerals

Barite.—Minerales y Productos Derivados S.A. (Minersa) was a main supplier of drilling grade material. Minersa continued to operate a surface mine and a plant at Vera.

Cement.—Cementos Portland Valderrivas planned to boost its white cement production rate from 700 metric tons per day (t/d) to 900 t/d while achieving a significant emission reduction by converting their El Alto plant near Madrid. The conversion would include the integration of a calciner into the existing preheater, the installation of a new rotary kiln drive, and replacement of the clinker cooler. Recommissioning of the modernized plant was scheduled for the second half of 2006 (Polysius AG, 2005§).

Fluorspar.—Minersa was Europe's leading fluorspar producer owing to its three deposits in the Province of Asturias in northern Spain. The Emilio, the Jaimina, and the Moscona underground mines produced a combined 420,000 t/yr of crude fluorspar.

Potash.—Iberpotash S.A. was a 100% owned subsidiary of Dead Sea Works Ltd., which was a leading producer of potash and an important potash resource in Western Europe. Iberpotash mined sylvinite and sylvite ore from the Cataluna deposit in the Suria area.

Sepiolite.—Spain, whose reserves of sepiolite in the Tagus Basin represent 70% of the world's reserves, maintained its world leadership in sepiolite production. The largest deposit was thought to be in excess of 15 Mt (Grupo Tolsa, 2005§).

Spain was strongly dependent upon imports of energy—it had no major oilfields, one natural gas field located offshore, and coal mines that consisted mainly of low-quality coal. Reserves of petroleum were estimated to be 158 million barrels; natural gas reserves to be 72 million cubic meters; and coal reserves, 655 Mt (U.S. Energy Information Administration, 2005§).

Output of natural gas and petroleum decreased compared with that of 2004. Spain's production of crude oil was limited, and the country continued to be a large importer of mineral fuels. Spain imported about 99% of its crude oil mainly from Russia, 15%; Mexico, 14.7%; Saudi Arabia, 12.7%; and Libya, 12.2%. Almost all Spain's natural gas production came from one offshore field, Poseidon, which was operated by Repsol YPF S.A.. The country imported 60% of its natural gas from Algeria (U.S. Energy Information Administration, 2005§).

Spain was the fifth-ranked electricity market in the EU. The country produced 229 billion kilowatts of electricity and consumed 218.4 billion kilowatts. The largest share of electricity generation came from conventional thermal plants (52.3%), hydroelectricity (25.2%), nuclear (14.9%), and other renewables (7.6%). Electricity consumption has grown considerably and has strained the electricity infrastructure, and several major blackouts were attributed to supply shortages or transmission grid malfunction (U.S. Energy Information Administration, 2005§).

Coal.—Coal reserves were abundant but difficult to mine. Consequently, the cost of production was high, which made Spanish coal less competitive than that of many other countries. Spain's attempts to modernize and restructure its coal industry has resulted in a decline in total coal production but has not led to decreased production costs. The leading producer of bituminous coal was the Hunosa Group, and the leading producer of lignite was Empresa Nacional de Electricidad S.A. (International Energy Agency, 2005§).

Renewable Energy.—Spain was the world's second-ranked producer of wind power after Germany, with the energy source meeting 6% of Spain's total electricity demand. Spain has 13,000 megawatts (MW) of installed wind capacity, and was to increase this amount to 20,000 MW by 2010 which would account for 12% of the country's total energy generation (Agence France Presse, 2005§).

Outlook

The Government was expected to continue with its privatization and liberalization efforts in the mineral industry. The economy will continue to be affected by the demands of EU integration and will grow modestly. About 80% of Spain's mining production is industrial minerals and rocks, and this is expected to continue. The country will continue to have a strong dependence on external sources of energy. Production of coal could eventually be phased out despite ongoing EU subsidies to maintain production. These subsidies are expected to be eliminated by 2010. More attention will most likely be directed toward renewable energy.

References Cited

Metal Bulletin, 2005a, Gerdau and Santander buy Spain's Sidenor for €463: Metal Bulletin, no. 8920, November 21, p. 5.
Metal Bulletin, 2005b, Special steel: Metal Bulletin, no. 8903, July 25, p. 18.
Mining Journal, 2005, Lomero-Poyatos no go: Mining Journal, July 22, p. 10.

Internet References Cited

Agence France Presse, 2005 (August 28), Energy generation, accessed September 29, 2005, at URL http://www.yahoo.com/s/afp/20050826/sc_afp.
Alcan Inc., 2005 (June 1), Alcan completes sale of its controlling interest in Aluminium de Grèce, accessed February 28, 2006, via URL http://www.alcan.com/web/publishing.nsf.
Cambridge Mineral Resources plc, 2005a (November 26), Positive gold assays returned from San Telmo project, accessed January 6, 2005, via URL http://www.cambmin.co.uk.
Cambridge Mineral Resources plc, 2005b, Spain, accessed September 29, 2006, at URL http://www.cambmin.co.uk/print.php?page=spain.
CCN Matthews, 2005 (September 13), Ventura commences drilling at Navelgas gold property in Spain, accessed September 24, 2005, at URL http://www.ccnmatthews.com/news/releases/show.jsp.
Compañia Española de Laminación, S.L., 2005, Quality and service—Our commitment, accessed October 28, 2005, at URL http://www.celsa.com/EN/zonapublica/empresa.aspx.
Federation of International Trade Association, 2007 (January), Spain—International trade, accessed July 26, 2007, at URL http://www.fita.org/countries/panorama_17.html.
Grupo Tolsa, 2005, Raw materials: Sepolite, accessed September 28, 2006, at URL http://www.tolsa.com/ing1/materias/iframe_sepiolite.html.
Haaretz, 2006 (June 28), Streaming filth to the sea, accessed September 28, 2006, at URL http://www.haaretz.com/hasen/objects/pages/PrintArticleEn.jhtml?itemNo=768122.
Inmet Mining Corp., 2005 (August 22), Inmet Mining announces completion of acquisition of 70 percent interest in the Las Cruces copper project in Spain, accessed September 24, 2006, at URL http://www.canadanewswire.com/en/releases/archive/August2005/22/c2008.html.
Inmet Mining Corp., 2006, Key project statistics, accessed August 8, 2007, at URL http://www.inmetmining.com/ouroperations/development/LasCruces/default.aspx.
International Energy Agency, 2005, Spain, Chapter 19, accessed March 14, 2006, at URL http://www.ieawind.org/iea_wind_pdf.
International Monetary Fund, 2006 (September), Report for selected countries—Spain, accessed September 27, 2006, at URL http://www.imf.org/external/pubs/ft/weo/2006/02/data/weorept.aspx.
Nations Encyclopedia, 2005 (November), Spain—Mining, accessed September 28, 2006, at URL http://www.nationsenclyclopedia.com/Europe/Spain-MINING.html.
Ormonde Mining plc, 2005a, Background to the La Zarza project, accessed August 15, 2005, at URL http://www.ormondemining.com/pr050815_LaZarza.htm.
Ormonde Mining plc, 2005b (September 8), Deal signed on high-grade silver-gold deposit in Spain, accessed September 12, 2006, at URL http://www.ormondemining.com/pr050908_Valina.htm.
Ormonde Mining plc, 2006a, Major gold-copper projects, accessed January 10, 2006, at URL http://www.ormondemining.com/projects.htm.
Ormonde Mining plc, 2006b (February 28), Option to acquire tungsten project in Salamanca, accessed February 28, 2006, at URL http://www.ormondemining.com/pr060228_Tungsten.htm.
Polysius AG, 2005 (September 14), Spain—Increasing the output of the El Alto white cement kiln line, accessed October 12, 2006, at URL http://www.polysisus.com/newsreadarchiv.asp.
Rio Narcea Gold Mines Ltd., 2005, Nickel operations, accessed March 14, 2006, at URL http://www.rionarcea.com/s/Aguablanca.asp.
U.S. Census Bureau, 2007, Foreign Trade Division—Trade with Spain—2005, accessed August 1, 2007, at URL http://www.census.gov/foreign-trade/balance/c4700.html.
U.S. Energy Information Administration, 2005 (March), Spain, Country Analysis Briefs, accessed March 22, 2005, at URL http//www.eia.doe.gov/emeu/cabs/spain.html.
Xstrata plc, 2005, Zinc, accessed September 28, 2006, at URL http://www.xstrata.com/prod_zinc.php.

Major Sources of Information

Instituto Geológico y Minero de España
Rio Rosas, 23
28003 Madrid, Spain
Ministerio de Ciença y Technología
Doctor Fleming, 7
28036 Madrid, Spain

TABLE 1
SPAIN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003[e]	2004[e]	2005[e]
METALS						
Aluminum:						
Alumina[e, 2]		1,100,000	1,000,000	1,000,000	1,000,000	1,000,000
Metal:						
Primary		376,400	380,100	389,100 [3]	397,500 [3]	421,580 [3]
Secondary		221,720	242,600	245,000 [3]	245,000 [3]	293,222 [3]
Total		598,120	622,700	634,100 [3]	642,500 [3]	714,802 [3]
Copper:						
Mine output, Cu content		9,748	1,248	643	1,448 [3]	889
Metal:						
Blister:						
Primary		255,200	281,300	280,000	224,300 [r, 3]	284,200 [3]
Secondary		24,700	16,700	20,000	14,100 [3]	10,000
Total		279,900	298,000	300,000	238,400 [r, 3]	294,000
Refined:						
Primary		235,100	271,500	276,300 [3]	208,241 [3]	267,300 [3]
Secondary		55,600	36,700	14,000	35,000 [3]	35,000
Total		290,700	308,200	290,300 [3]	243,241 [3]	302,000
Germanium oxide, Ge content[e]	kilograms	6,000	5,000	5,000	5,000	5,000
Gold, mine output, Au content	do.	3,720	5,158	5,362 [3]	5,248 [r, 3]	5,500
Iron and steel, metal:						
Pig iron	thousand metric tons	4,094	3,978	3,645 [r, 3]	4,036 [r, 3]	4,200
Ferroalloys, electric furnace	do.	180 [e]	175	175	175	180
Steel:						
Crude	do.	15,834	16,358	16,287 [3]	17,684 [3]	17,800
Hot rolled	do.	14,931	15,000 [e]	14,000	15,000	15,000
Lead:						
Mine output, Pb content		36,000	6,171	1,765 [3]	--	--
Metal, secondary[e]		121,600 [3]	116,000	99,100 [3]	105,600 [3]	110,000 [3]
Mercury, mine output, Hg content		524	727	500	250	--
Nickel, Ni content of concentrate		--	--	--	(4)	5,380 [3]
Silver, mine output, Ag content	kilograms	54,836	3,409	2,246 [3]	3,583 [r, 3]	2,300
Tin, mine output, Sn content[e]		425	267	247 [3]	231 [r, 3]	--
Uranium, mine output:						
U content		353	315	170	170	--
U_3O_8 content		416	372	200	200	--
Zinc:						
Mine output, Zn content		164,900	69,926	15,100	--	--
Metal, primary and secondary		436,800	502,400	519,900 [3]	531,700 [3]	501,400 [3]
INDUSTRIAL MINERALS						
Barite, $BaSO_4$		50,640	52,494	44,660 [3]	40,776 [r, 3]	37,000
Calcium carbonate[e]		2,000	2,000	2,100	2,000	2,000
Cement, hydraulic, other than natural	thousand metric tons	40,512	42,417	44,747 [r, 3]	45,593 [r, 3]	50,347 [3]

See footnotes at end of table.

TABLE 1--Continued
SPAIN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003[e]	2004[e]	2005[e]
INDUSTRIAL MINERALS--Continued						
Clays:						
Attapulgite		24,477	22,918	18,975 [3]	20,796 [r, 3]	20,000
Bentonite		100,000	123,457	103,174 [3]	156,760 [r, 3]	105,000
Kaolin, washed		440,000	419,483	450,000	437,990 [r, 3]	450,000
Other[e]	thousand metric tons	15,000	15,000	15,000	15,000	15,000
Diatomite and tripoli		66,433	53,558	52,700	33,799 [r, 3]	34,000
Feldspar		514,285	538,407	600,000	552,507 [r, 3]	580,000
Fluorspar, CaF_2 content:						
Acid-grade		126,535	131,155	129,195 [3]	135,505 [r, 3]	133,495 [3]
Metallurgical-grade		7,504	10,279	10,503 [3]	10,186 [r, 3]	10,500
Total		134,039	141,434	139,698 [3]	145,691	143,995
Gypsum and anhydrite, crude	thousand metric tons	11,901	11,218	11,500 [3]	12,534 [r, 3]	13,000
Lime, hydrated and quicklime[e]	do.	1,700	1,800	1,800	1,800	1,818 [3]
Magnesite, calcined		156,000	150,000 [e]	150,000	150,000	150,000
Mica		10,000 [e]	11,786	11,800	7,825 [r, 3]	10,000
Nitrogen, N content of ammonia	thousand metric tons	436	415	432 [3]	404	400
Pigment, mineral:						
Ocher		126,000	140,000	174,153 [3]	138,050 [r, 3]	140,000
Red iron oxide[e]		5,000	4,500	5,404 [3]	1,734 [r, 3]	1,500
Potash, K_2O equivalent		569,127	481,329	594,355 [3]	590,000	575,000
Pumice		857,223	701,528	711,898 [3]	553,210 [r, 3]	500,000
Pyrite, including cuprous, gross weight	thousand metric tons	152	100 [e]	--	--	--
Salt:						
Rock, including byproduct from potash works	do.	2,200	2,560 [e]	2,563 [3]	2,657 [r, 3]	2,600
Marine and other	do.	1,500	1,334	1,400	1,336 [r, 3]	1,350
Sand and gravel, silica sand[5]	do.	95,000 [e]	95,768	105,000	113,948 [r, 3]	135,000
Sepiolite, meerschaum		896,983	733,134	690,395 [3]	851,647 [r, 3]	800,000
Sodium compounds, n.e.s.:[e]						
Soda ash, manufactured	thousand metric tons	500	500	500	500	500
Sulfate, natural:						
Glauberite, Na_2SO_4 content		705,000	754,945 [3]	815,560 [3]	944,971 [r, 3]	950,000
Thenardite, Na_2SO_4 content		168,000	160,000	200,000	165,030 [r, 3]	165,000
Manufactured		125,000	125,000	125,000	125,000	125,000
Stone:						
Chalk[e]	thousand metric tons	980	876	920	1,063 [r, 3]	1,000
Dolomite	do.	9,628	11,537	12,000	14,489 [r, 3]	15,000
Limestone[e]	do.	250,000	236,411 [3]	248,000	265,694 [r, 3]	270,000
Marble, ornamental	do.	3,941	5,230	5,000	2,245 [r, 3]	2,620 [3]
Marl	do.	10,495	10,000 [e]	10,000	10,356 [r, 3]	10,000
Basalt	do.	3,348	3,400 [e]	3,400	5,094 [r, 3]	5,000
Granite, ornamental[e]	do.	1,200	1,200	1,412 [3]	2,471 [r, 3]	2,500
Ophite	do.	2,840	2,800 [e]	2,800	3,874 [r, 3]	4,000
Phonolite	do.	1,630	1,761	2,000	1,729 [r, 3]	1,800
Porphyry	do.	2,483	1,971	2,100	1,139 [r, 3]	1,100
Quartz	do.	2,150	2,000 [e]	2,000	1,139 [r, 3]	1,100
Quartzite	do.	2,150	2,784	2,900	2,873 [r, 3]	2,800
Sandstone	do.	2,430	2,246	2,400	3,608 [r, 3]	3,400
Other	do.	897	900 [e]	900	900	900
Slate	do.	790 [e]	828	837 [3]	1,429 [r, 3]	1,200
Other[e]	do.	1,000	1,000	1,000	1,000	1,000
Strontium minerals, Sr_2O_4 content		143,320	171,293	152,383 [3]	192,942 [r, 3]	188,000

See footnotes at end of table.

TABLE 1--Continued
SPAIN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003[e]	2004[e]	2005[e]
INDUSTRIAL MINERALS--Continued						
Sulfur:						
S content of pyrites	thousand metric tons	90	--	--	--	--
Byproduct:[e]						
Metallurgy	do.	461	544	500	500	500
Petroleum	do.	135	140	150	150	150
Coal (lignite) gasification	do.	1	1	1	1	1
Total	do.	687	685	651	651	651
Talc and steatite[e]		115,000	115,000	115,000	107,892 [r, 3]	100,000
MINERAL FUELS AND RELATED MATERIALS						
Coal, marketable:						
Anthracite	thousand metric tons	4,694	4,393	3,863 [3]	3,692 [r, 3]	3,889 [3]
Bituminous	do.	5,797	5,383	5,531 [3]	5,220 [r, 3]	4,666 [3]
Lignite	do.	12,193	8,762	8,795 [r, 3]	8,147 [r, 3]	7,587 [3]
Total	do.	22,684	18,538	18,189 [r, 3]	17,100 [r]	16,142 [3]
Coke, metallurgical	do.	2,400 [e]	2,628	2,500	2,500	2,500
Gas, natural, marketed	thousand cubic meters	556,650	553,156	550,000	370,019 [r, 3]	330,000
Peat[e]		50,000	55,302 [3]	55,000	57,229 [r, 3]	60,000
Petroleum:						
Crude	thousand 42-gallon barrels	2,505	2,427	2,404 [3]	1,913 [r, 3]	1,261 [3]
Refinery products:						
Liquefied petroleum gas	do.	18,250 [r]	35,164	33,234 [3]	33,072 [r, 3]	33,698 [3]
Naphtha	do.	25,000 [e]	26,069	25,000	25,000	25,000
Gasoline, motor	do.	78,366 [r]	74,035	76,431 [r, 3]	87,797 [r, 3]	87,593 [3]
Jet fuel	do.	29,529 [r]	28,944	24,456 [3]	21,688 [r, 3]	21,224 [3]
Kerosene	do.	16,000 [e]	15,965	15,942 [3]	16,000	16,000
Distillate fuel oil	do.	150,526 [r]	149,759	111,676 [3]	112,000	112,000
Residual fuel oil	do.	75,993 [r]	68,085	60,353 [3]	55,730 [r, 3]	57,294 [3]
Other	do.	82,381 [r]	80,483 [r]	79,461 [r, 3]	80,000 [r]	80,000
Refinery fuel and losses	do.	27,193 [r]	25,146 [r]	27,631 [r, 3]	26,000 [r]	26,000
Total	do.	503,238 [r]	503,650 [r]	454,184 [r, 3]	457,000 [r]	459,000

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.

[1]Table includes data available through October 2006.

[2]Reflects aluminum hydrate.

[3]Reported figure.

[4]The Aguablanca operation of Rio Narcea Gold Mines Ltd. was commissioned in December 2004.

[5]Includes sand obtained as a byproduct of feldspar and kaolin production.

TABLE 2
SPAIN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Alumina	Alúmina Española S.A. (Alcoa Inc.)	Alumina plant at San Ciprian, Lugo	1,000
Aluminum	do.	Electrolytic plant at San Ciprian, Lugo	230
Do.	Alcoa Inespal S.A. (Alcoa Inc.)	Electrolytic plant at Aviles	85
Do.	do.	Electrolytic plant at La Coruña	85
Barite	Minerales y Productos Derivados S.A.	Mine and plant at Vera, Almeria	100
Bentonite	Süd-Cheme España SL	Mine and plant at Yuncos, Toledo	150
Cement	Ashland S.A.	Puerto de Sagunton, Valencia	2,000
Do.	do.	Villaluenga de la Sagra, Toledo	2,000
Do.	do.	3 other plants	2,000
Do.	35 other companies	49 other plants	38,000
Coal:			
Anthracite	Antracitas Gaiztarro S.A.	Mines at Maria and Paulina	2,000
Do.	do.	Mines near Oviedo	2,000
Do.	Antracitas del Bierzo S.A.	Mines near Leon	1,000
Bituminous	Hunosa Group, (Government, 100%)	Various mines and plant near Oviedo	3,300
Do.	Hulleras Vasco Leonesa S.A.	Santa Lucia Mine, Leon	2,000
Do.	Minas de Figaredo S.A.	Mines near Oviedo	1,000
Do.	Nacional de Carbon del Sur (Encasur)	Rampa 3 and San Jose Mines, Cordoba	200
Lignite	Empresa Nacional de Electricidad S.A. (Endesa)	As Pontes Mine, and Andorra Mine, La Coroña	15,000
Copper:			
Metal	Atlantic Copper S.A. (Freeport MacMoRan Copper & Gold Inc., 100%)	Refinery at Huelva	270
Do.	do.	Electrolytic refinery at Huelva	105
Do.	Industrias Reunidas de Cobre	Smelter at Asua-Bilbao	30
Do.	Elmet SL	Smelter and electrolytic refinery at Berango, Vizcaya	60
Ore, metal	Atlantic Copper S.A. (Freeport MacMoRan Copper & Gold Inc., 100%)	Mines and plant at Arientero near Santiago de Compostela	12
Do.	do.	Alfredo underground mine in Rio Tinto area	30
Do.	Minas de Rio Tinto S.A.	Cero Colorado open pit mine	20
Dunite	Pasek España S.A.	Mines and plant at Landoy, Ortigueira	1,500
Fluorspar, ore	Minerales y Productos Derivados S.A.	Plant at Torre, Austrias	150
Do.	do.	Underground mines at Emilio, Jaimina, and Moscona, Austrias	420
Gold kilograms	Rio Narcea Gold Mines, Ltd.	El Valle and Carles mines, Asturias	3,750
Lead:			
Metal	Española del Zinc S.A.	Refinery at Cartagena, Murcia	50
Do.	Compañia La Cruz, Minas y Fundaciones de Plomo S.A.	Smelter at Lineares, Jaen	40
Do.	do.	Refinery at Lineares, Jaen	40
Do.	Tudor S.A.	Secondary smelter at Saragoza	16
Do	Ferroaleaciones Españolas, S.A.	Secondary smelter at Medina del Campo	12
Do	Derivados de Minerales y Metales	Secondary smelter at Barcelona	5
Ore	Sociedad Minera y Metalúrgica de Peñarroya de España S.A. (Peñarroya, France, 90%)	Opencast mine at Montos de Los Azules	25
Do.	Andaluza de Piritas S.A.	Mine at Aznalcollar (closed 2001)	21
Do.	Exploración Minera International España S.A. (EXMINESA)	Underground mine at Rubiales, Lugo	16
Magnesite	Magnesitas Navarras S.A.	Mine at Eugui, plant at Zubiri	600
Do.	Magnesitas de Rubián S.A.	Plant at Monte Castel	70
Mercury flasks	Minas de Almadén y Arrayanes S.A., (Government, 100%)	Mines and smelter at Almaden	70,000
Nickel, metal	Rio Narcea Gold Mines, Ltd.	Aguablanca Mine, Extremadura	8

TABLE 2--Continued
SPAIN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum:				
Crude	42-gallon barrels per day	Chevron S.A.	Oilfield at Casablanca	300
Refined	do.	Repsol YPF S.A.	Refinery at Escombreras	200,000
Do.	do.	do.	Refinery at Puertollano	14,000
Do.	do.	do.	Refinery at Tarragona	260,000
Do.	do.	Refineria de Petróleos del Norte S.A. (Petronor)	Refinery at Somorrostro	240,000
Do.	do.	Compañía Española de Petróleos S.A. (Cepsa)	Refinery at Santa Cruz de Tenerife	160,000
Do.	do.	Petroleos del Mediterraneo S.A. (Petromed)	Refinery at Castellón de la Plana	120,000
Do.	do.	Compañía Iberica Refinadora de Petróleos S.A. (Petroliber)	Refinery at La Coruña	140,000
Potash, ore		Iberpotash S.A. (Dead Sea Works Ltd.)	Mines and plants at Suria near Barcelona	850
Pyrite		Compañia Española de Mines de Tharsis	Mines and plants at Tharsis and Zarza (closed)	1,300
Do.		do.	Plant at Huelva	600
Sepiolite		Tolsa S.A.	Mine and plant at Vicalvaro near Madrid	100
Do.		Silicatos-Anglo-Ingleses S.A.	Mine and plant at Villecas near Madrid	200
Sodium sulfate		Crimidesa S.A.	Mine and plant at Cerezo de Rio, Burgos	600
Steel		Aceralia Corporación Siderúrgica (Arbed S.A., 35%)	Plants at Aviles, Gijon, Sagunto, and Sestao	8,000
Do.		Cia Espanola de Laminacion SL (Celsa Group, 100%)	Plant at Barcelona	1,600
Strontium		Solvay Minerales S.A.	Mines and plant at Escuzar, Granada	85
Do.		Bruno S.A.	Mine and plant at Montevives, Granada	50
Uranium, U_3O_8	metric tons	Empresa Nacional del Uranio (Enusa) (Government, 100%)	Mines and plant near Ciudad Real	500
Zinc:				
Metal		Asturiana de Zinc S.A. (Azsa) (Xstrata plc, 100%)	Electrolytic zinc plant at San Juan de Nieva Castillon	480
Do.		Española del Zinc S.A.	Electrolytic plant at Cartagena	50
Ore		Asturiana de Zinc S.A. (Xstrata plc, 100%)	Reocin mines and plants (closed 2003)	500
Do.		Exploración Minera International España S.A. (EXMINESA)	Underground mine at Rubiales, Lugo	500
Do.		Sociedad Minera y Metalúrgica de Penarroya-Espana S.A.	Mines and plants at Montos de los Azules y Sierra de Lujar, San Agustin	200

TABLE 3
SPAIN: EXPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Destinations	
			United States	Other (principal)
METALS				
Alkali and alkaline-earth metals:				
Alkali metals		394	--	All to Switzerland.
Alkaline-earth metals		62,628	--	France 39,898; Portugal 22,238; Finland 468.
Aluminum:				
Ore and concentrate		4,158,813	4	Portugal 3,021,437; Italy 639,000; France 267,375.
Oxides and hydroxides	metric tons	733,736	3	Netherlands 299,959; Norway 77,015; Poland 74,834.
Ash or residue containing aluminum		1,137,687	36,000	Italy 1,101,687.
Metal, including alloys:				
Scrap		36,590,105	--	Portugal 10,749,113; China 7,293,460; Germany 5,728,093.
Unwrought	metric tons	102,330	40	Portugal 26,566; France 26,083; Italy 21,686.
Semimanufactures:				
Powders and flakes	do.	695	--	Germany 533; United Kingdom 81; Netherlands 59.
Rods, bars, profiles	do.	95,978	195	France 31,621; Portugal 18,040; United Kingdom 12,579.
Wire		15,719,684	495,045	Italy 4,157,596; Belgium 2,315,135; Austria 1,815,706.
Plates, sheets, strips		31,723,232	1,755,000	Switzerland 8,381,802; France 5,307,652; Italy 4,245,819.
Foil	metric tons	33,132	854	France 7,658; Germany 5,883; United Kingdom 1,994.
Tubes and pipes		5,981,884	5,750	Germany 1,244,152; France 1,182,062; Turkey 621,624.
Tube or pipe fittings		839,844	97,222	France 291,875; Uruguay 132,187; Portugal 106,007.
Antimony:				
Ore and concentrate		2,000	--	All to Portugal.
Oxides		797,318	--	Italy 528,750; Netherlands 75,000; France 66,656.
Metal, including alloys, all forms		409,160	--	Israel 379,062; Morocco 14,000; France 6,000.
Arsenic, metal, including alloys, all forms		1	--	Unspecified 1.
Beryllium, metal, including alloys, all forms		5,312	--	All to Portugal.
Bismuth, metal, including alloys, all forms		1,802	--	Portugal 1,062; Brazil 296; Israel 250.
Cadmium, metal, including alloys, all forms		34	--	Portugal 23; unspecified 11.
Chromium:				
Ore and concentrate		2,112,683	--	Portugal 1,636,375; Italy 371,750; France 43,558.
Oxides and hydroxides		957,489	--	Italy 245,499; France 155,226; Germany 64,769.
Metal, including alloys, all forms		904,919	173,753	France 283,050; Germany 120,210; Norway 101,367.
Cobalt:				
Ore and concentrate		66,464	--	China 59,902; Singapore 4,562; Ethiopia 2,000.
Oxides and hydroxides		32,903	1,062	Germany 16,699; Italy 7,000; Morocco 5,000.
Metal, including alloys, all forms		35,043	--	Argentina 31,249; Israel 1,125; Tunisia 855.
Columbium and tantalum, metal, including alloys, all forms, tantalum		2,260	--	France 1,687; Brazil 304; United Kingdom 267.
Copper:				
Ore and concentrate		4,326,684	--	Canada 4,326,375; Chile 308; unspecified 1.
Matte and speiss, including cement copper		8,000	--	All to Brazil.
Oxides and hydroxides		342,763	--	Italy 288,062; France 23,710; Netherlands 19,000.
Sulfates		2,891,176	--	Portugal 990,062; France 724,125; Greece 631,062.
Ash and residue containing copper		50,034	--	Germany 35,437; Belgium 14,687.
Metal, including alloys:				
Scrap	metric tons	78,650	568	Germany 19,113; China 17,257; United Kingdom 14,960.
Unwrought		95,333,129	331	Belgium 33,603,104; Germany 6,870,224; France 6,483,771.
Semimanufactures:				
Powders and flakes		470,687	--	France 284,003; Mexico 70,507; United Kingdom 69,300.
Rods, bars, profiles		78,488,980	1,421,687	Germany 19,033,062; Spain 16,728,619; France 15,383,933.
Wire		92,977,959	23,687	Portugal 37,939,499; Italy 36,383,416; France 12,344,765.
Plates, sheets, strips		9,955,193	792,793	Portugal 3,923,046; Germany 687,359; Morocco 636,120.
Foil		5,522,407	164,363	Italy 2,310,749; Germany 987,608; France 659,527.
Tubes and pipes	metric tons	20,098	54	Algeria 3,765; United Kingdom 3,542; France 3,152.
Tube or pipe fittings	do.	9,934	150	France 2,381; Germany 1,549; United Kingdom 1,412.

See footnotes at end of table.

TABLE 3--Continued
SPAIN: EXPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Destinations	
			United States	Other (principal)
METALS—Continued				
Gold:				
Waste and sweepings		3,409	41	Belgium 2,867; France 350; United Kingdom 134.
Metal, including alloys, unwrought and partly wrought		9,584	--	Switzerland 1,524; France 1,109; Portugal 1,094.
Iron and steel:				
Iron and concentrate:				
Including roasted pyrite	metric tons	180,035	(1)	Greece 118,039; Turkey 22,051; Tunisia 20,869.
Excluding roasted pyrite		259,074	347	Norway 252,203; Turkey 4,000; Hungary 2,000.
Pyrite, roasted	metric tons	179,776	--	Greece 118,039; Turkey 22,047; Tunisia 20,869.
Metal:				
Scrap	do.	198,547	622	France 76,119; Portugal 60,145; China 14,276.
Pig iron, cast iron, related materials		9,055,750	42,538	Portugal 2,865,124; Mexico 1,362,750; Germany 920,056.
Ferroalloys:				
Ferrochromium		550,673	--	Portugal 518,023; Luxembourg 25,000; Bulgaria 3,125.
Ferromanganese		85,415,128	3,054,000	Germany 25,278,187; Italy 15,120,600; Poland 7,650,000.
Ferromolybdenum		121,811	--	Netherlands 62,316; Portugal 37,058; Mauritania 11,937.
Ferronickel		16,500	--	All to Germany.
Ferrosilicomanganese	metric tons	40,130	2,600	Portugal 9,408; France 7,702; United Kingdom 6,895.
Ferrosilicon		116,713	--	Luxembourg 59,398; Portugal 31,570; India 21,058.
Ferrotungsten and ferrosilicotungsten		10,292	--	Luxembourg 10,000; Portugal 292.
Ferrotitanium and ferrosilicotitanium		80,440	--	Egypt 30,140; Brazil 28,613; Luxembourg 20,000.
Ferrovanadium		117,573	--	Netherlands 56,101; Portugal 45,160; United Kingdom 8,312.
Ferroniobium		1,149	--	Portugal 1,125; unspecified 24.
Silicon metal	metric tons	12,954	400	Germany 4,573; United Kingdom 3,219; Italy 2,776.
Unspecified		301,285	--	Mexico 82,367; Poland 59,804; Brazil 45,925.
Steel, primary forms	metric tons	132,228	62,564	Italy 23,993; China 8,436; France 6,722.
Semimanufactures:				
Flat-rolled products:				
Of iron or nonalloy steel:				
Not clad, plated, coated	do.	794,220	823	Italy 236,263; Portugal 195,444; France 175,880.
Clad, plated, coated	do.	713,545	4,295	France 186,204; Portugal 140,317; Italy 116,526.
Of alloy steel	do.	515,981	1,304	Italy 97,849; Germany 65,999; France 64,519.
Bars, rods, angles, shapes, sections	do.	3,224,264	105,905	Portugal 640,873; France 406,880; Germany 315,021.
Rails and accessories		87,971,466	8,754,617	Turkey 20,431,507; Bangladesh 18,198,003; Brazil 9,491,687.
Wire	metric tons	204,223	3,504	France 84,613; Germany 17,545; Portugal 16,492.
Tubes, pipes, fittings	do.	673,171	67,676	France 176,520; Portugal 115,181; Germany 56,286.
Lead:				
Ore and concentrate		6,057,158	--	China 6,048,078; Cuba 6,000; Ethiopia 3,000.
Oxides	metric tons	1,931	--	Portugal 535; United Kingdom 286; Morocco 234.
Metal, including alloys:				
Scrap		6,398,880	--	France 5,155,191; Portugal 391,812; Austria 371,125.
Unwrought		8,502,480	--	Portugal 5,870,698; France 1,000,937; Germany 759,726.
Semimanufactures		1,923,352	328	Netherlands 699,390; Belgium 551,562; France 485,375.
Lithium oxides and hydroxides		14,464	--	Belgium 10,000; Philippines 2,000; Dominican Republic 1,875.
Magnesium, metal, including alloys:				
Scrap		2,400,433	--	Norway 2,263,875; Germany 136,558.
Unwrought		421,751	140,476	Mexico 187,769; Norway 66,515; Portugal 26,445.
Semimanufactures		258,136	--	Portugal 83,597; France 51,585; unspecified Asia 98,140.
Manganese:				
Ore and concentrate	metric tons	989	--	United Kingdom 470; Czech Republic 336; Italy 129.
Oxides		2,824,179	42,000	China 1,920,000; Portugal 173,148; France 169,500.
Metal, including alloys, all forms		6,124,245	1,690,062	Germany 1,292,375; France 1,062,812; Australia 465,937.
Mercury		596,646	--	Iran 113,218; United Kingdom 86,843; India 66,480.

See footnotes at end of table.

TABLE 3--Continued
SPAIN: EXPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Destinations	
			United States	Other (principal)
METALS—Continued				
Molybdenum:				
Ore and concentrate:				
Roasted		128,019	--	Netherlands 81,019; Germany 46,000; Italy 1,000.
Unroasted		5,706	--	Italy 5,625; Brazil 61; Israel 20.
Oxides and hydroxides		199	--	All to Italy.
Metal, including alloys:				
Scrap and unwrought		12,288	--	Brazil 11,187; Portugal 1,000; Hungary 101.
Semimanufactures		5,541	30	Portugal 2,503; Germany 1,260; Argentina 554.
Nickel:				
Ore and concentrate		148	--	All to Mexico.
Matte and speiss		250	--	All to France.
Oxides and hydroxides		1,364	--	Portugal 824; Germany 500; France 40.
Metal, including alloys:				
Scrap		508,773	142,718	Japan 120,000; United Kingdom 79,128; Italy 75,222.
Unwrought		177,106	2,187	Portugal 120,660; Germany 27,500; Malaysia 17,343.
Semimanufactures		128,831	626	Ireland 39,648; Germany 24,351; Chile 16,386.
Platinum-group metals:				
Waste and sweepings		1,893	1,800	United Kingdom 57; France 36.
Metal, including alloys, unwrought and partly wrought:				
Palladium	value	$862,771	$2,487	Portugal $453,973; France $292,163; Netherlands $24,762.
Platinum	value, thousands	$7,900	$2	France $6,260; United Kingdom $1,450; Italy $79.
Rhodium	value	$200,235	--	United Kingdom $180,275; Italy $13,288; Portugal $6,358.
Iridium, osmium, ruthenium		832	--	Switzerland 98; Singapore 10; Poland 3.
Rare-earth metals, including alloys, all forms		628	367	Indonesia 199; India 50; unspecified 12.
Selenium, elemental		537	--	Portugal 523; unspecified 14.
Silicon, high-purity		74,513	--	Italy 48,000; Portugal 26,371; Malta 97.
Silver, metal, including alloys, unwrought and partly wrought	value	$56,724,304	$345,888	France $17,595,053; Italy $13,351,345; Portugal $7,562,723.
Tin:				
Ore and concentrate		50,229	460	Poland 35,031; Belgium 14,687; unspecified 51.
Metal, including alloys:				
Scrap		220,895	--	Belgium 189,863; Netherlands 29,820; Germany 1,187.
Unwrought		165,034	--	Portugal 100,203; Turkey 24,980; Italy 12,988.
Semimanufactures		91,088	--	United Kingdom 60,632; Qatar 9,312; Mexico 8,562.
Titanium:				
Ore and concentrate		624,307	--	Portugal 248,000; Mexico 131,351; China 102,300.
Oxides		728,849	--	Belgium 166,988; China 160,058; Morocco 126,300.
Metal, including alloys:				
Powders, unwrought, scrap		967	--	Portugal 398; Malta 199; France 148.
Semimanufactures		481,677	35,687	United Kingdom 176,499; Italy 89,812; Germany 69,421.
Tungsten:				
Ore and concentrate		16,921,570	--	All to Greece.
Metal, including alloys:				
Scrap and unwrought		57,384	8,500	Netherlands 25,683; Italy 7,625; Germany 7,750.
Semimanufactures		80,306	526	United Kingdom 62,209; Netherlands 7,937; Germany 2,811.
Uranium and thorium:				
Oxides and other compounds		68,066	720	France 57,744; Portugal 8,805; United Kingdom 775.
Metal, including alloys, all forms, thorium		67,353	7	Do.
Vanadium, oxides and hydroxides		9,764	--	Mexico 5,562; Austria 3,312; Andorra 742.
Zinc:				
Ore and concentrate		38,097,599	--	Belgium 20,747,898; Germany 11,332,437; France 4,754,679.
Oxides		17,145,260	--	Netherlands 3,750,375; Portugal 3,520,750; Italy 3,410,562.

See footnotes at end of table.

TABLE 3--Continued
SPAIN: EXPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Destinations	
			United States	Other (principal)
METALS—Continued				
Zinc—Continued:				
Blue powder		200,567	--	Brazil 200,019; Poland 500; unspecified 48.
Ash and residue containing zinc		235,666	57,609	Portugal 335,675; South Africa 192,976; Turkey 20,140.
Metal, including alloys:				
Scrap		5,142,017	--	China 2,495; Portugal 1,118,312; Italy 351,062.
Unwrought	metric tons	349,145	--	Italy 116,030; Netherlands 84,757; Germany 77,688.
Semimanufactures		698,326	82	China 351,812; Portugal 241,173; India 49,500.
Zirconium:				
Ore and concentrate	metric tons	11,003	80	United Arab Emirates 3,367; Turkey 1,375; Indonesia 1,171.
Metal, including alloys:				
Scrap and unwrought		148,261	--	Brazil 120,000; Algeria 16,199; Russia 12,062.
Semimanufactures		840,318	--	Indonesia 552,000; Brazil 256,000; Venezuela 14,000.
Other, ash and residue		2,627,397	93,609	Italy 1,101,687; Japan 382,125; Portugal 335,675.
INDUSTRIAL MINERALS				
Abrasives, n.e.s.:				
Natural: Corundum, emery, pumice, etc.		6,939,528	2,625	Cuba 3,020,125; France 1,409,252; Germany 987,000.
Artificial:				
Corundum		859,696	--	Italy 680,125; Portugal 63,218; France 58,335.
Silicon carbide		4,866,489	192,371	United Kingdom 1,052,500; Italy 960,000; Portugal 532,937.
Dust and powder of precious and semiprecious stones, including diamond	value	$2,208,942	$13,654	Portugal $869,993; Italy $778,881; Germany $330,017.
Grinding and polishing wheels and stones		6,979,023	318,947	Portugal 1,187,951; Germany 1,082,448; France 680,966.
Barite and witherite		33,929,917	--	Italy 14,484,863; France 7,850,519; Belgium 4,006,375.
Boron materials:				
Crude natural borates		7,185,051	--	Republic of Korea 4,011,000; India 1,449,000; Brazil 931,687.
Oxides and acids		4,248,155	--	Italy 2,653,062; France 929,375; Greece 167,640.
Cement	metric tons	1,753,034	328,650	France 505,903; Portugal 253,192; United Kingdom 205,276.
Chalk	do.	106,050	380	Germany 28,684; France 23,493; Morocco 13,605.
Clays, crude:				
Bentonite	do.	81,710	1	United Kingdom 24,691; Germany 15,354; France 11,689.
Chamotte earth and Dinas earth		1,422,997	--	Andorra 881,187; Morocco 298,000; Algeria 181,519.
Fire clay		2,927,820	--	Portugal 1,167,375; France 831,875; Italy 356,000.
Fuller's earth	metric tons	11,362	--	Germany 5,462; Netherlands 2,308; Argentina 1,164.
Kaolin	do.	151,467	--	Italy 30,696; France 27,675; United Kingdom 24,421.
Unspecified	do.	23,446	133	Portugal 11,265; France 5,101; Republic of Korea 2,226.
Diamond, natural:				
Gem, not set or strung	value	$5,112,874	$7,781	Belgium $1,932,428; Andorra $933,012; Portugal $693,800.
Industrial stones	do.	$394,656	$9,555	Italy $248,254; Poland $60,159; Belgium $34,225.
Dust and powder	do.	$2,208,942	$13,654	Portugal $869,993; Italy $778,881; Germany $330,017.
Diatomite and other infusorial earth		5,256,489	101,871	Portugal 1,463,250; Italy 1,308,000; France 822,125.
Feldspar		72,058,129	--	Portugal 39,075,359; Turkey 9,493,199; Italy 7,469,597.
Fertilizer materials:				
Crude, n.e.s.		35,263,016	--	Indonesia 12,506,296; Portugal 7,639,667; Italy 6,112,058.
Manufactured:				
Ammonia		49,705,456	--	France 24,399,707; Morocco 8,766,617; Senegal 5,314,722.
Nitrogenous	metric tons	453,314	168	France 111,269; Ireland 96,632; Portugal 48,880.
Phosphatic		1,467,477	--	Portugal 881,062; Italy 445,812; Chile 40,160.
Potassic	metric tons	680,201	--	France 311,360; Brazil 97,429; Netherlands 86,562.
Unspecified and mixed	do.	1,314,009	1,008	France 454,716; Portugal 176,870; Italy 113,752.
Fluorspar		2,221,068	--	Portugal 2,221,000; Japan 44; unspecified 24.
Graphite, natural		27,634,380	1	Italy 19,023,750; France 8,542,300; Switzerland 20,398.
Gypsum and plaster	metric tons	3,369,337	789,300	United Kingdom 784,611; France 312,118; Portugal 248,676.
Iodine		31,140	--	Germany 25,656; Lithuania 2,062; United Kingdom 1,062.

See footnotes at end of table.

TABLE 3--Continued
SPAIN: EXPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Destinations	
			United States	Other (principal)
INDUSTRIAL MINERALS—Continued				
Kyanite and related materials:				
Andalusite, kyanite, sillimanite		25,624	--	Italy 11,562; Portugal 10,250; Russia 2,000.
Mullite		24,487	--	France 22,101; Italy 2,187; unspecified 199.
Unspecified		50,111	--	France 22,101; Italy 13,749; Portugal 10,250.
Lime		97,972,538	--	France 77,966,632; Portugal 6,780,917; Nigeria 2,482,625.
Magnesium compounds:				
Magnesite, crude		25,557,097	--	Canada 24,361,878; France 451,375; Poland 327,687.
Oxides and hydroxides	metric tons	422,319	--	United Kingdom 269,349; France 79,920; Netherlands 14,665.
Other		237,648	--	Portugal 187,648; Belgium 26,000; Morocco 24,000.
Mica:				
Crude, including splittings and waste		3,074,519	--	United Kingdom 1,897,312; France 793,625; Italy 176,613.
Worked, including agglomerated splittings		25,828	--	Argentina 4,750; Portugal 3,757; France 3,625.
Nitrates, crude		327,402	--	Belgium 180,500; Morocco 42,000; Turkey 41,808.
Phosphates, crude		7,034	2,000	China 3,000; Portugal 1,937; unspecified 97.
Phosphorus, elemental		1	--	Unspecified 1.
Pigments, mineral, iron oxides and hydroxides, processed		15,600,256	695,875	Italy 3,183,487; Portugal 1,767,437; France 1,464,937.
Potassium salts, crude		6	--	All to Slovenia.
Precious and semiprecious stones other than diamond:				
Natural	value, thousands	$1,114	$162	United Arab Emirates $323; Colombia $249; Germany $73.
Synthetic	value	$1,878,339	$18,520	Germany $518,075; Morocco $308,288; Portugal $276,078.
Pyrite, unroasted		55,739	--	Israel 47,000; Poland 4,000; Morocco 2,500.
Quartz crystal, piezoelectric	value	$308	--	Unspecified $308.
Salt and brine	metric tons	745,478	632	France 285,348; Norway 163,435; United Kingdom 86,516.
Sodium compounds, n.e.s., natural and/or manufactured, sulfate	do.	816,543	2	Italy 164,712; Brazil 150,162; United Kingdom 93,976.
Stone, sand and gravel:				
Dimension stone:				
Crude and partly worked	do.	1,376,801	70,285	China 308,063; Italy 161,220; France 59,125.
Worked	do.	1,158,737	96,631	France 338,986; United Kingdom 163,232; Germany 137,387.
Dolomite, chiefly refractory-grade	do.	183,014	17,201	United Kingdom 85,297; France 27,130; Portugal 13,454.
Gravel and crushed rock	do.	941,605	238	Portugal 345,433; Andorra 298,430; France 241,988.
Limestone other than dimension	do.	122,032	--	Belgium 121,172; Indonesia 344; China 210.
Quartz and quartzite	do.	389,669	--	Norway 317,608; Iceland 30,183; Canada 17,102.
Sand other than metal-bearing	do.	1,756,885	--	Portugal 905,117; Andorra 579,790; Italy 181,673.
Sand and gravel	do.	2,698,491	238	Portugal 1,250,551; Andorra 878,219; France 282,316.
Sulfur:				
Elemental:				
Crude, including native and byproduct		53,873,597	--	Netherlands 16,721,062; Niger 7,051,339; Brazil 6,310,257.
Colloidal, precipitated, sublimed		98,678	--	Portugal 39,109; Germany 26,679; Cuba 10,500.
Dioxide		637,968	--	Portugal 546,375; Belgium 69,152; Italy 22,441.
Sulfuric acid	metric tons	292,996	--	Portugal 91,247,375; Brazil 61,981,789; Morocco 53,210,730.
Talc, steatite, soapstone, pyrophyllite		60,859,715	2,687	Belgium 24,751,148; Portugal 13,556,089; Italy 7,086,085.
Vermiculite, perlite, chlorite		1,440,765	--	France 355,250; Portugal 271,437; Italy 216,179.
Other, slag and dross, not metal-bearing	metric tons	433,314	36,134	Portugal 374,175; France 8,567; Canada 7,734.
MINERAL FUELS AND RELATED MATERIALS				
Asphalt and bitumen, natural		6,302,642	--	Andorra 4,683,730; Portugal 1,170,812; Cuba 116,000.
Carbon black		16,541,065	--	Portugal 5,886,054; France 5,374,015; Italy 2,001,375.
Coal:				
Anthracite		48,709,710	--	Portugal 18,938,250; France 17,948,960; Venezuela 8,271,835.
Bituminous	metric tons	14,638	--	United Kingdom 9,200; Portugal 3,818; Tunisia 809.
Briquets of anthracite and bituminous coal		33,000	--	All to Portugal.

See footnotes at end of table.

TABLE 3--Continued
SPAIN: EXPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Destinations	
			United States	Other (principal)
MINERAL FUELS AND RELATED MATERIALS—Continued				
Coal—Continued:				
Lignite, including briquets		20,640	--	All to Morocco.
All grades, including briquets	metric tons	63,401	--	Portugal 22,789; France 18,758; United Kingdom 12,031.
Coke and semicoke	do.	985,408	--	Germany 418,456; France 262,596; Brazil 161,463.
Gas, manufactured		753	--	Portugal 656; Cuba 70; unspecified 27.
Gas, natural:				
Gaseous	metric tons	2,041,369	--	Portugal 2,041,369; unspecified.[1]
Liquefied	do.	181,720	140,006	Republic of Korea 39,191; Portugal 2,522.
Peat, including briquets and litter		5,228,949	--	Portugal 2,577,187; France 1,186,000; Germany 695,750.
Petroleum:				
Crude		5,252	--	Algeria 60; unspecified 5,192.
Refinery products:				
Liquefied petroleum gas	metric tons	307,841	18,643	Morocco 147,517; Portugal 57,981; United Kingdom 20,064.
Mineral jelly and wax		38,902,031	1,376,125	Portugal 11,971,066; Italy 4,427,194; France 3,462,312.
Asphalt	metric tons	880,029	--	France 269,721; Portugal 264,314; Algeria 121,066.
Bitumen and other residues	do.	880,055	--	France 269,721; Portugal 264,340; Algeria 121,066.
Bituminous mixtures		67,143,735	--	Portugal 65,744,125; France 1,053,062; Italy 82,390.
Petroleum coke	metric tons	170,408	--	Portugal 115,983; Venezuela 53,062; Italy 82,390.

-- Zero.

[1]Less than ½ unit.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed online at URL http://unstats.un.org/unsd/comtrade.

TABLE 4
SPAIN: IMPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Sources	
			United States	Other (principal)
METALS				
Alkali and alkaline-earth metals:				
Alkali metals		119,735	3	China 90,000; Germany 10,585; France 10,276.
Alkaline-earth metals		644,969	--	Russia 219,949; China 209,699; Germany 164,089.
Aluminum:				
Ore and concentrate	metric tons	3,329,441	(1)	Guinea 3,177,042; Greece 51,423; China 42,708.
Oxides and hydroxides	do.	85,152	544	Germany 36,373; France 35,424; Netherlands 4,944.
Ash or residue containing aluminum		64,130,394	24,136	France 27,781,707; Italy 13,646,621; Germany 6,464,730.
Metal, including alloys:				
Scrap		85,980,552	18,363	France 46,771,273; Portugal 19,397,707; Germany 4,013,062.
Unwrought	metric tons	328,782	(1)	Portugal 85,669; Mozambique 82,456; Norway 47,009.
Semimanufactures:				
Powders and flakes	do.	3,011	14	Germany 1,115; South Africa 680; United Kingdom 601.
Rods, bars, profiles		46,023,366	915,339	Venezuela 7,950,074; France 7,247,686; Italy 7,042,847.
Wire		41,928,586	56,620	Brazil 11,829,526; Venezuela 7,361,726; France 6,762,901.
Plates, sheets, strips	metric tons	138,052	26,565	Germany 38,019; Italy 16,966; France 14,234.
Foil		44,648,938	50,269	Germany 10,026,375; France 5,489,811; Greece 4,078,187.
Tubes and pipes	metric tons	18,144	629	Germany 3,678; United Kingdom 3,193; Italy 3,069.
Tube or pipe fittings		966,160	3,500	Germany 239,359; Italy 163,152; Portugal 153,277.
Antimony:				
Ore and concentrate		104,644	--	Italy 54,195; China 22,000; Germany 18,375.
Oxides		5,701,040	--	France 5,265,300; Belgium 136,531; China 100,000.
Metal, including alloys, all forms		2,269,608	--	China 2,041,250; Netherlands 119,976; Vietnam 60,000.
Arsenic, metal, including alloys, all forms		91,812	--	China 89,000; France 2,812.
Beryllium, metal, including alloys, all forms		7,638	585	Italy 5,625; France 1,375; Brazil 53.
Bismuth, metal, including alloys, all forms		206,180	3	Belgium 167,914; United Kingdom 13,937; Germany 11,562.
Cadmium, metal, including alloys, all forms		21,660	--	Mexico 20,000; France 808; United Kingdom 695.
Chromium:				
Ore and concentrate		3,946,600	--	Pakistan 1,019,750; France 1,006,750; South Africa 679,062.
Oxides and hydroxides	metric tons	10,883	(1)	China 3,432; United Kingdom 3,279; Russia 2,224.
Metal, including alloys, all forms		1,519,610	854	Portugal 643,062; Russia 569,687; Japan 230,941.
Cobalt:				
Ore and concentrate		8,331	3	Germany 8,125; Belgium 199; unspecified 4.
Oxides and hydroxides		1,241,580	--	China 457,687; United Kingdom 258,750; Finland 224,734.
Metal, including alloys, all forms		180,760	8,511	Germany 52,191; France 38,910; Belgium 32,378.
Columbium and tantalum, metal, including alloys, all forms, tantalum		3,572	1,062	Germany 1,753; Italy 390; United Kingdom 265.
Copper:				
Ore and concentrate	metric tons	776,980	(1)	Indonesia 269,265; Chile 234,853; Portugal 102,493.
Matte and speiss, including cement copper		95,761	--	Finland 66,574; Germany 14,562; France 13,312.
Oxides and hydroxides		952,025	89,554	Peru 158,000; Norway 144,000; France 107,027.
Sulfates		2,982,609	203	Italy 968,187; France 627,750; Russia 360,437.
Ash and residue containing copper	metric tons	24,652	4,408	Italy 10,774; Belgium 3,597; United Kingdom 1,899.
Metal, including alloys:				
Scrap	do.	115,038	4,982	Portugal 58,075; France 24,265; Germany 8,460.
Unwrought		82,574,092	498,405	Chile 62,922,303; France 6,605,473; Finland 3,451,144.
Semimanufactures:				
Powders and flakes		1,861,736	1,507	Italy 1,081,312; France 420,624; United Kingdom 187,136.
Rods, bars, profiles		36,734,627	32,323	Germany 15,101,791; France 7,583,003; Spain 3,981,343.
Wire		90,699,993	385,733	France 33,887,220; Italy 25,077,497; Belgium 21,639,148.
Plates, sheets, strips		28,425,673	214,810	Germany 18,869,946; Italy 3,899,645; France 2,276,075.
Foil	metric tons	15,319	8	Italy 3,407; Republic of Korea 2,977; China 1,869.
Tubes and pipes		57,279,474	575,812	Italy 19,243,175; Greece 13,394,573; Germany 8,317,975.
Tube or pipe fittings		13,317,807	347,281	Italy 4,708,750; France 2,072,577; Germany 1,527,999.

See footnotes at end of table.

TABLE 4--Continued
SPAIN: IMPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Sources	
			United States	Other (principal)
METALS—Continued				
Gold:				
Waste and sweepings		7,343	8	Portugal 5,242; Italy 1,985; Germany 108.
Metal, including alloys, unwrought and partly wrought		35,416	71	Switzerland 22,938; Russia 4,956; Germany 3,403.
Iron and steel:				
Iron and concentrate:				
Including roasted pyrite	metric tons	6,183,146	(1)	Brazil 4,329,346; Venezuela 649,484; Mauritania 568,117.
Excluding roasted pyrite	do.	6,182,975	(1)	Brazil 4,329,175; Venezuela 649,484; Mauritania 568,117.
Pyrite, roasted		171,211	199	Brazil 171,000; Italy 10; unspecified 2.
Metal:				
Scrap	thousand metric tons	6,982	23	United Kingdom 2,215; France 1,422; Russia 1,283.
Pig iron, cast iron, related materials	metric tons	1,239,681	3,790	Russia 519,642; Brazil 126,845; Sweden 123,078.
Ferroalloys:				
Ferrochromium	metric tons	217,399	--	South Africa 128,674; Kazakhstan 46,705; Zimbabwe 20,401.
Ferromanganese		20,848,737	--	Norway 7,432,683; France 6,469,480; South Africa 3,361,000.
Ferromolybdenum		3,662,986	--	United Kingdom 1,798,562; Chile 494,500; Armenia 376,500.
Ferronickel	metric tons	58,641	(1)	New Caledonia 20,813; Greece 13,098; Colombia 12,622.
Ferrosilicochromium		48,060	--	Russia 48,000; United Kingdom 60.
Ferrosilicomanganese	metric tons	74,787	18	Norway 17,626; China 15,524; South Africa 11,886.
Ferrosilicon		9,413,235	18,011	Argentina 3,268,187; Norway 2,897,812; Brazil 889,250.
Ferrotungsten and ferrosilicotungsten		127,077	--	China 41,476; Netherlands 34,914; Luxembourg 30,000.
Ferrotitanium and ferrosilicotitanium		1,228,225	--	United Kingdom 733,000; Germany 194,621; France 168,144.
Ferrovanadium		1,133,060	--	Russia 315,000; Netherlands 258,750; South Africa 172,355.
Ferroniobium		514,827	--	Brazil 266,375; Netherlands 130,199; Germany 118,000.
Silicon metal		5,355,008	--	France 1,797,250; South Africa 1,148,375; China 1,133,000.
Unspecified		11,041,892	18,335	France 3,732,937; China 2,364,437; Slovenia 1,443,375.
Steel, primary forms	metric tons	1,494,429	5,048	France 614,473; Portugal 170,446; Turkey 168,276.
Semimanufactures:				
Flat-rolled products:				
Of iron or nonalloy steel:				
Not clad, plated, coated	do.	3,901,512	470	France 657,081; Italy 534,048; Germany 532,845.
Clad, plated, coated	do.	2,074,777	4,903	Germany 477,437; Italy 297,909; France 295,202.
Of alloy steel	do.	1,364,381	2,134	France 946,021; Germany 153,195; Italy 46,186.
Bars, rods, angles, shapes, sections	do.	2,291,560	734	Portugal 513,053; Turkey 493,498; United Kingdom 145,754.
Rails and accessories	do.	20,788	--	France 6,674; Germany 3,220; Luxembourg 2,166.
Wire	do.	180,627	74	Italy 62,464; France 28,468; Germany 24,696.
Tubes, pipes, fittings	do.	740,331	2,953	Italy 145,628; France 112,986; Germany 87,558.
Lead:				
Ore and concentrate		1,845,197	--	Ghana 919,875; Nigeria 705,062; Morocco 88,000.
Oxides		4,825,737	--	Italy 1,496,539; Belgium 529,000; United Kingdom 102,062.
Metal, including alloys:				
Scrap		27,866,519	--	France 12,113,914; Portugal 8,905,039; Nigeria 2,748,500.
Unwrought	metric tons	153,103	428	Morocco 29,534; Belgium 24,627; Peru 20,196.
Semimanufactures		3,013,517	7,063	France 1,035,311; Portugal 689,437; Netherlands 570,187.
Lithium oxides and hydroxides		329,296	17,503	China 125,000; Germany 110,980; Belgium 66,000.
Magnesium, metal, including alloys:				
Unwrought		1,952,457	--	China 649,500; Netherlands 521,437; Germany 266,109.
Semimanufactures		4,508,235	24,242	Norway 3,660,750; Israel 256,187; France 160,546.
Manganese:				
Ore and concentrate	metric tons	574,929	25	South Africa 260,913; Gabon 153,417; Brazil 62,614.
Oxides		5,831,722	1,812	South Africa 2,089,500; India 1,364,000; Germany 526,623.
Metal, including alloys, all forms		9,800,895	304	China 9,053,824; Netherlands 308,562; Germany 266,625.
Mercury		301,089	23,699	Switzerland 122,835; Netherlands 53,238; Peru 45,152.

See footnotes at end of table.

TABLE 4--Continued
SPAIN: IMPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Sources	
			United States	Other (principal)
METALS—Continued				
Molybdenum:				
Ore and concentrate:				
Roasted		3,775,538	287,375	Mexico 1,481,812; Netherlands 843,375; Chile 797,875.
Unroasted		87,328	16,328	Germany 48,000; Netherlands 22,000; Italy 1,000.
Oxides and hydroxides		37,634	--	United Kingdom 24,550; Germany 11,937; Italy 699.
Metal, including alloys:				
Scrap and unwrought		17,917	4,125	Germany 10,134; France 1,875; China 1,500.
Semimanufactures		11,774	1,135	Netherlands 3,051; Paraguay 3,000; Germany 2,593.
Nickel:				
Ore and concentrate		6,502	--	Italy 5,750; Netherlands 750; unspecified 2.
Matte and speiss		8,562	--	Canada 8,125; Germany 437.
Oxides and hydroxides		203,647	--	Cuba 65,425; Netherlands 62,476; Finland 16,648.
Metal, including alloys:				
Scrap		91,408	--	Portugal 39,898; Brazil 34,281; France 16,679.
Unwrought	metric tons	28,264	136	Australia 10,722; Russia 6,480; Netherlands 3,988.
Semimanufactures		2,041,126	100,190	United Kingdom 409,009; Belgium 221,671; Sweden 178,254.
Platinum-group metals:				
Waste and sweepings		298	--	Portugal 200; France 98.
Metal, including alloys, unwrought and partly wrought:				
Palladium		1,082	520	Switzerland 341; France 129; Germany 33.
Platinum	value, thousands	$22,722	$40	United Kingdom $7,108; France $6,711; Switzerland $6,679.
Rhodium	value	$629,998	--	United Kingdom $521,472; Germany $56,223; Italy $39,646.
Iridium, osmium, ruthenium	do.	$74,502	--	United Kingdom $48,139; Italy $17,503; Australia $3,936.
Rare-earth metals, including alloys, all forms		84,662	3	China 76,000; United Kingdom 7,750; Italy 707.
Selenium, elemental		50,027	--	France 14,312; Germany 11,437; Netherlands 3,625.
Silicon, high-purity	metric tons	307	(1)	United Arab Emirates 116; Philippines 88; Netherlands 44.
Silver:				
Ore and concentrate		54,306	--	Indonesia 17,423; Chile 10,825; France 10,000.
Metal, including alloys, unwrought and partly wrought		176,098	104,936	Switzerland 18,237; Germany 13,893; Netherlands 13,097.
Tin:				
Ore and concentrate		159,898	--	United Kingdom 120,000; Netherlands 39,898.
Metal, including alloys:				
Scrap		2,265,719	24,097	Portugal 2,167,125; France 53,496; Italy 15,875.
Unwrought		8,155,512	23	Peru 2,277,437; Indonesia 2,061,562; Malaysia 1,554,347.
Semimanufactures		532,591	3,191	France 193,542; Germany 188,574; Italy 112,128.
Titanium:				
Ore and concentrate	metric tons	174,749	(1)	Australia 172,362; Ukraine 724; South Africa 465.
Oxides		19,769,174	4,396,175	China 5,601,851; Netherlands 3,540,062; Germany 2,308,375.
Metal, including alloys:				
Powders, unwrought, scrap		514,629	757	Russia 314,562; United Kingdom 82,722; Germany 61,308.
Semimanufactures		3,301,480	481,792	Belgium 1,731,437; Russia 442,625; Germany 265,288.
Tungsten:				
Ore and concentrate		949	--	France 500; Czech Republic 449.
Metal, including alloys:				
Scrap and unwrought		12,379	6,141	China 2,815; Austria 1,250; Netherlands 988.
Semimanufactures		247,076	20,319	Portugal 98,425; Italy 98,280; Germany 9,565.
Uranium and thorium:				
Oxides and other compounds		303,386	--	United Kingdom 274,678; Italy 25,201; Portugal 2,000.
Metal, including alloys, all forms:				
Uranium		3	3	None.
Thorium		29,723	--	Italy 25,201; Portugal 2,000; France 1,178.

See footnotes at end of table.

TABLE 4--Continued
SPAIN: IMPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Sources	
			United States	Other (principal)
METALS—Continued				
Vanadium:				
Oxides and hydroxides		118,268	2	Germany 60,765; United Kingdom 52,500; Belgium 5,000.
Metal, including alloys, all forms		5,221	--	China 5,000; Netherlands 199; Germany 16.
Zinc:				
Ore and concentrate	metric tons	864,143	157,614	Peru 240,097; Ireland 176,305; Canada 114,123.
Oxides		59,416,318	123,007	China 12,767,617; Italy 9,806,406; Netherlands 8,361,539.
Blue powder		1,627,926	5,000	Belgium 1,038,062; Denmark 409,312; Germany 116,003.
Ash and residue containing zinc		8,113,478	--	Portugal 2,447,562; Germany 2,358,937; France 1,251,195.
Metal, including alloys:				
Scrap		4,195,961	--	Italy 1,434,562; France 1,211,625; Australia 438,250.
Unwrought	metric tons	17,720	--	Belgium 13,118; Netherlands 1,379; United Kingdom 1,276.
Semimanufactures		6,064,547	222	France 2,873,705; Germany 1,713,647; Italy 398,155.
Zirconium:				
Ore and concentrate	metric tons	142,853	1,956	South Africa 86,764; Australia 49,464; Ukraine 2,366.
Metal, including alloys:				
Scrap and unwrought		246	39	Switzerland 128; Germany 66; unspecified 13.
Semimanufactures		93,464	22,625	Netherlands 36,601; Germany 17,203; Israel 9,812.
Other, ash and residue		97,255,438	4,432,475	France 29,5639,507; Italy 25,355,412; Germany 8,893,834.
INDUSTRIAL MINERALS				
Abrasives, n.e.s.:				
Natural: Corundum, emery, pumice, etc.		5,278,209	4,177	India 2,134,062; Turkey 859,750; Australia 735,500.
Artificial:				
Corundum		22,362,819	--	China 8,129,136; France 5,256,296; Germany 2,398,562.
Silicon carbide	metric tons	8,663	(1)	Venezuela 2,522; Norway 1,822; Netherlands 1,205.
Dust and powder of precious and semiprecious stones, including diamond	value	$16,325,075	$393,239	Ireland $10,788,971; Belgium $3,935,280; Italy $319,751.
Grinding and polishing wheels and stones		12,091,365	23,526	Italy 3,320,186; Germany 2,903,256; China 1,147,452.
Asbestos, crude		192,171	--	Germany 3,500; unspecified 188,671.
Barite and witherite		59,387,160	--	Morocco 29,688,300; China 28,071,800; Netherlands 837,000.
Boron materials:				
Crude natural borates		63,007,123	--	Turkey 59,251,000; Argentina 3,479,249; Chile 224,000.
Oxides and acids		31,276,914	--	Chile 4,270,000; Turkey 3,418,250; Bolivia 1,620,000.
Cement	metric tons	8,767,359	--	Egypt 3,472,876; Portugal 1,373,143; Turkey 1,262,719.
Chalk		7,077,001	--	France 4,902,925; Portugal 1,470,687; Netherlands 561,250.
Clays, crude:				
Bentonite		60,560,107	35,847	Italy 22,155,066; Greece 17,220,257; Germany 7,506,113.
Chamotte earth and Dinas earth		33,567,984	7,916,109	Ukraine 16,008,000; France 6,198,218; Germany 3,272,875.
Fire clay		98,551,304	--	Ukraine 93,281,875; France 2,207,687; Turkey 2,191,625.
Fuller's earth		270,673	--	Malaysia 120,000; Turkey 100,000; Portugal 48,398.
Kaolin	metric tons	1,219,340	17,593	Ukraine 554,030; United Kingdom 370,316; Turkey 99,320.
Unspecified	do.	35,425	703	United Kingdom 8,391; Ukraine 8,041; Portugal 6,797.
Diamond, natural:				
Gem, not set or strung	value	$86,131,064	$142,801	Belgium $66,837,074; India $8,738,437; Israel $6,122,548.
Industrial stones	value, thousands	$2,616	$38	Belgium $1,745; Ireland $366; United Kingdom $199.
Dust and powder	value	$16,304,507	$390,443	Ireland $10,788,971; Belgium $3,935,280; Italy $319,751.
Diatomite and other infusorial earth		7,165,642	3,684,187	France 2,285,812; Cuba 780,000; Germany 261,125.
Feldspar	metric tons	961,345	--	Turkey 692,280; Italy 186,035; France 77,619.
Fertilizer materials:				
Crude, n.e.s.		23,737,538	128,261	France 6,134,750; Italy 5,781,562; Germany 4,227,476.
Manufactured:				
Ammonia	metric tons	511,552	--	Algeria 146,706; Ukraine 123,332; Netherlands 107,205.
Nitrogenous	do.	1,352,236	79	Russia 306,667; Netherlands 143,912; Portugal 128,405.
Phosphatic	do.	101,139	--	Portugal 33,045; Tunisia 23,118; France 15,956.

See footnotes at end of table.

TABLE 4--Continued
SPAIN: IMPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Sources	
			United States	Other (principal)
INDUSTRIAL MINERALS—Continued				
Fertilizer materials—Continued:				
Manufactured—Continued:				
Potassic	metric tons	339,161	1	Jordan 97,466; Israel 82,171; Canada 54,752.
Unspecified and mixed	do.	2,818,056	572	Russia 378,146; Portugal 305,971; Belgium 261,866.
Fluorspar		15,005,837	--	Mexico 9,416,250; China 2,500,875; Netherlands 2,480,875.
Graphite, natural		9,383,534	237,480	China 5,162,699; Germany 1,491,968; Canada 1,152,312.
Gypsum and plaster		57,501,134	261,360	Morocco 43,202,953; France 9,404,816; Germany 2,047,921.
Iodine		712,437	333,562	Japan 216,500; Portugal 132,699; Chile 16,000.
Kyanite and related materials:				
Andalusite, kyanite, sillimanite	metric tons	13,511	504	South Africa 10,623; France 2,222; Netherlands 96.
Mullite		1,750,823	4,562	Germany 889,125; China 780,687; Hungary 33,199.
Unspecified	metric tons	15,262	509	South Africa 10,623; France 2,222; Germany 908.
Lime		2,991,065	--	Portugal 1,351,690; Belgium 846,812; Germany 405,210.
Magnesium compounds:				
Magnesite, crude		2,915,783	--	Italy 2,175,437; Turkey 562,125; Israel 143,433.
Oxides and hydroxides	metric tons	102,426	245	Netherlands 34,682; China 28,755; Ireland 8,818.
Other		13,623,882	--	Germany 12,769,882; India 830,000; Netherlands 24,000.
Mica:				
Crude, including splittings and waste		1,620,064	32,246	India 623,437; Italy 217,683; France 191,448.
Worked, including agglomerated splittings		430,555	125	China 191,839; Belgium 149,804; Austria 40,562.
Nitrates, crude		9,020,263	--	China 7,918,011; Germany 1,077,687; Belgium 24,000.
Phosphates, crude	metric tons	1,800,252	4	Morocco 1,684,824; Algeria 74,618; Tunisia 23,270.
Phosphorus, elemental		8,238	--	Italy 7,375; Germany 859; Japan 3.
Pigments, mineral, iron oxides and hydroxides, processed		32,991,287	42,086	China 18,984,163; Germany 7,057,269; Brazil 1,694,812.
Potassium salts, crude		84	6	Philippines 78.
Precious and semiprecious stones other than diamond:				
Natural	value	$9,553,891	$255,970	Thailand $2,294,697; Brazil $1,359,965; India $1,327,432.
Synthetic	value, thousands	$6,125	$38	Switzerland $2,739; China $1,048; Germany $480.
Pyrite, unroasted		1,065,875	--	China 642,250; Brazil 320,687; Italy 72,000.
Quartz crystal, piezoelectric	value	$1,149,079	$36,182	Japan $881,389; Italy $202,977; Germany $20,833.
Salt and brine	metric tons	36,153	137	Algeria 11,478; France 8,879; United Kingdom 6,644.
Sodium compounds, n.e.s., natural and/or manufactured, sulfate		396,282	--	France 241,054; Germany 130,976; Italy 24,035.
Stone, sand and gravel:				
Dimension stone:				
Crude and partly worked	metric tons	1,195,339	469	Portugal 259,564; India 127,231; Brazil 120,771.
Worked	do.	259,449	145	Italy 60,230; China 53,482; Portugal 34,236.
Dolomite, chiefly refractory-grade		5,616,599	1,437	Portugal 2,946,374; France 831,882; Italy 830,718.
Gravel and crushed rock	metric tons	304,660	743	Morocco 196,525; France 71,778; Italy 2,752.
Limestone other than dimension		3,386	--	Portugal 1,000; Bulgaria 386; unspecified 2,000.
Quartz and quartzite		25,633,755	1	Brazil 18,590,190; China 1,864,000; India 1,832,132.
Sand other than metal-bearing	metric tons	1,306,610	248	Morocco 962,544; France 89,550; Portugal 59,122.
Sand and gravel	do.	1,611,270	991	Morocco 1,159,069; France 161,328; Portugal 87,525.
Sulfur:				
Elemental:				
Crude, including native and byproduct	do.	234,621	--	France 118,165; Germany 51,293; Kazakhstan 33,800.
Colloidal, precipitated, sublimed		540,355	--	Algeria 300,000; France 198,687; Germany 31,660.
Dioxide		5,529,805	--	Germany 5,130,351; Sweden 283,937; Italy 103,015.
Sulfuric acid	metric tons	229,394	(1)	Italy 110,142; France 33,083; Germany 28,524.
Talc, steatite, soapstone, pyrophyllite		80,648,953	371,875	France 37,125,945; Italy 18,020,171; China 12,228,097.
Vermiculite, perlite, chlorite		92,007,827	5,437	Greece 41,821,234; Turkey 32,607,000; China 10,992,058.
Other, slag and dross, not metal-bearing	metric tons	385,396	61	France 114,045; Turkey 71,815; United Kingdom 60,496.

See footnotes at end of table.

TABLE 4--Continued
SPAIN: IMPORTS OF SELECTED MINERAL COMMODITIES IN 2004

(Kilograms unless otherwise specified)

Commodity		Total	Sources	
			United States	Other (principal)
MINERAL FUELS AND RELATED MATERIALS				
Asphalt and bitumen, natural		120,104	78,101	Germany 31,828; Hungary 4,500; Netherlands 4,000.
Carbon black	metric tons	159,592	421	France 39,980; Germany 17,838; Egypt 16,511.
Coal:				
Anthracite	do.	2,198,662	9,022	Russia 671,518; Australia 632,894; South Africa 431,684.
Bituminous	do.	12,863,655	1,419,144	South Africa 4,516,653; Australia 2,629,890; Russia 2,207,361.
Briquets of anthracite and bituminous coal		105,381	--	United Kingdom 104,941; Germany 417; unspecified 23.
Lignite, including briquets		15,454	--	Netherlands 10,187; Sri Lanka 5,062; Turkey 203.
All grades, including briquets	thousand metric tons	24,211	2,007	South Africa 10,194; Indonesia 3,521; Australia 3,263.
Coke and semicoke	do.	170,494	34,699	Russia 58,423; China 30,498; Ukraine 21,972.
Gas, manufactured		513	--	Italy 500; unspecified 13.
Gas, natural:				
Gaseous	metric tons	6,416,472	(1)	Algeria 4,690,518; Norway 1,285,392; Tanzania 425,388.
Liquefied	do.	13,296,771	--	Algeria 5,165,575; Nigeria 3,475,340; Qatar 3,070,458.
Peat, including briquets and litter	do.	189,722	46	Germany 107,285; Estonia 25,838; Latvia 13,859.
Petroleum:				
Crude	do.	59,340,540	--	Mexico 7,881,521; Libya 7,577,060; Russia 7,080,188.
Refinery products:				
Liquefied petroleum gas	do.	1,436,157	--	Algeria 806,814; United Kingdom 158,898; Norway 115,909.
Mineral jelly and wax		42,517,568	100,049	Portugal 11,598,843; China 8,389,945; France 7,485,584.
Asphalt	metric tons	365,196	--	Portugal 138,726; Italy 102,388; France 82,505.
Bitumen and other residues	do.	409,258	(1)	Portugal 138,726; Italy 102,388; France 118,626
Bituminous mixtures		3,567,689	--	Portugal 1,498,000; France 1,211,750; Germany 502,250.
Petroleum coke	thousand metric tons	4,598	3,059	Venezuela 1,016; Aruba 259; United Kingdom 196.

-- Zero.

[1]Less than ½ unit.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed online at URL http://unstats.un.org/unsd/comtrade.