

THE MINERAL INDUSTRY OF COLOMBIA

By Ivette E. Torres

Colombia was the fourth largest country in Latin America and the Caribbean. In terms of purchasing power parity, it had the fourth largest economy in the region after Brazil, Mexico, and Argentina in 2004. Colombia's gross domestic product was \$95.2 billion¹ at current prices and \$315.5 billion based on purchasing power parity (International Monetary Fund, 2005²). The country's economy grew by 4.1% following an increase of 4.47% (revised) in 2003. This economic growth was propelled, in part, by a significant growth in construction, which increased by 9.7% after an increase of 13.4% (revised) in 2003. Mining and quarrying (which included hydrocarbons) increased by 2.24% after a 16.95% increase (revised) in 2003 (Departamento Administrativo Nacional de Estadística, 2005a§). Output of the automobile industry increased by 41%, and that of the iron and steel industry increased by more than 12% (Embajada de Colombia en Tokyo, 2005§).

Colombia's economy and mineral production were dominated by the fuel sector. The country was the fifth ranked producer of crude petroleum in Latin America and the Caribbean and contributed about 5% of the regional output (BP p.l.c., 2005, p. 6). Colombia was also the leading producer of coal in the region. Historically, Colombia has been recognized as an important producer and the world's leading exporter of emerald. In addition, Colombia was an important producer of ferronickel and the only producer of platinum in Latin America. The country also produced copper, iron ore, lead, steel, silver, and zinc. It was an important producer of cement in Latin America and produced small amounts of construction materials and industrial minerals (table 1).

In the first 6 months of 2004, foreign direct investment (FDI) in Colombia increased by 73% to \$1.4 billion. More than three-fourths of the new FDI was in the mining and petroleum sectors (U.S. Department of State, 2005§). By yearend, FDI in mining had increased to \$1.25 billion in 2004, which was 41.5% of Colombia's total direct investment, from \$627 million in 2003 (Ministerio de Minas y Energía, 2005, p. 18).

Government Policies and Programs

Colombia's mining law in force was law No. 685, which came into effect in 2001. Under this law, the Federal mining authority was the Ministerio de Minas y Energía (MME). In 2004, the Government of Colombia continued to reorganize entities that reported directly to the MME and those associated with it.

In January, the Government approved several decrees to restructure the Government's mineral-producing company Minercol Ltda. (in liquidation), the Instituto Colombiano de Geología y Minería (Ingeominas), and the Unidad de Planeación Minero Energética (UPME). With the new

structure, Ingeominas retained the responsibilities of the national geological survey and acquired some of Minercol's responsibilities (contracts, taxation, and titles). Carbones de Colombia S.A. (Carbocol) and IFI Concesión Salinas (IFI) were in liquidation (Ministerio de Minas y Energía, 2004, p. 105, 115).

The Government also modified the contract model that applies to the hydrocarbon sector. In April 2004, the recently formed (2003) Agencia Nacional de Hidrocarburos presented a new contract model in the form of a royalty-based concession awarded to the investor who would assume total risk but would have all rights to the production after the royalty payment. A concession provides for an exploration period of 6 years and a production period of 24 years with the possibility of extending the production period by 10 years (Unidad de Planeación Minero Energética, 2005a, p. 28).

Environmental Issues

In 2003, the Ministerio del Ambiente, Vivienda y Desarrollo Territorial was created by law No. 216. This new Ministry replaced the Ministerio del Medio Ambiente, which had been created in 1993 by law No. 99 as the highest Government authority with responsibility for environmental matters. The Corporaciones Autónomas are responsible for administering natural resources and controlling the environmental deterioration associated with such productive activities as mining.

Production

In terms of value (after petroleum), coal, emerald, gold, and platinum were Colombia's principal minerals produced. In 2004, production of coal, emerald, nickel, and platinum increased when compared with that of 2003. Colombia was the leading producer of coal in Latin America with about 70% of the region's output but only about 1% of the world total. Despite a decrease in the production of gold and losing ground in regional output, Colombia continued to be an important producer of this commodity, and was the fourth ranked producer of gold in Latin America and the Caribbean (after Peru, Brazil, and Chile); it produced about 9% of the regional total and about 1% of the world total. The country was the leading producer of mine nickel with 29% of Latin America and the Caribbean's total and the third ranked producer of cement (after Brazil and Mexico).

Colombia was the fifth ranked producer of crude petroleum in Latin America and the Caribbean with 5% of the total and the seventh ranked producer of natural gas in the region with about 4% of the total (BP p.l.c., 2005, p. 6, 22).

Trade

Colombia's exports totaled \$16.7 billion. Petroleum and coal were Colombia's two main export earners. Exports of

¹Where necessary, values have been converted from Colombian pesos (Col\$) to U.S. dollars (US\$) at the rate of Col\$2,628.48=US\$1.00.

²References that include a section mark (§) are found in the Internet References Cited section.

petroleum (the highest export earner) totaled \$4.2 billion, which represented about 25% of total exports. Total imports were \$16.7 billion. Despite Colombia being a net exporter of petroleum, it imported \$262 million in petroleum products, which was a slight increase from that of 2003. The United States was Colombia's main trading partner with 39.5% of Colombia's exports and 28.9% of its imports. Other important partners were countries from the Andean Community Countries, the European Union, and the Latin American Integration Association (Departamento Administrativo Nacional de Estadística, 2005§).

Mineral exports (including base metals, coal, ferronickel, and industrial minerals but excluding petroleum) totaled \$3.7 billion or 22% of total exports. Coal (including coke) was the largest export item of the mining sector with \$1.85 billion, which was a 30% increase compared with that of 2003 and represented 11% of Colombia's total exports. The main areas of export for Colombian coal were Europe and North America. Exports of ferronickel totaled \$628 million compared with \$416 million (revised) in 2003. Exports of gold decreased by almost 5% to \$561 million, and the value of official emerald exports (\$74.2 million) continued to decrease (Ministerio de Minas y Energía, 2005, p. 68; Departamento Administrativo Nacional de Estadística, 2005§).

Structure of the Mineral Industry

The Ministerio de Minas y Energía was the Government entity entrusted with oversight of the minerals and energy sectors. Several agencies either reported directly to the Ministry or were associated with it; some of these were the Agencia Nacional de Hidrocarburos (ANH), the Comisión de Regulación de Energía y Gas, the Dirección de Energía, the Dirección de Gas, the Dirección de Hidrocarburos, the Dirección de Minería, Empresa Colombiana de Gas, Ecopetrol S.A., Ingeominas, and the Unidad de Planeación Minero Energética.

The production of minerals and energy was by the public and private sector. Nickel and coal were produced in their entirety by the private sector. Natural gas and petroleum were produced by the Government through Ecopetrol and in partnership with the private companies with direct contracts between Ecopetrol and the companies. Ecopetrol owned and operated the country's petroleum refinery production. After the reorganization of the ministry in 2003, Ecopetrol became a publicly owned company stripped of all administrative and regulatory functions, which were given to ANH, and the requirement that Ecopetrol have a minimum participation of 30% with the private sector was eliminated. Consequently, private foreign companies were able to operate in Colombia without being associated with Ecopetrol. IFI, Carbocol, and Minercol were in liquidation (Ministerio de Minas y Energía, 2004, p. 102, 115).

Commodity Review

Metals

Gold.—Although official gold production in 2004 decreased by 19% from that of 2003, it remained at the second highest level ever (table 1). The Department of Antioquia had the

highest production with 61% of Colombia's total production. The Department of Cordoba was the second ranked producer with 19% of the production, and the Department of Bolivar was the third ranked producer with 8% of the production. During the year, production from the Department of Bolivar decreased by almost 60%. The areas of Remedios and Segovia were estimated to produce from 70% to 80% of the total gold produced in the Department of Antioquia. Together, the Departments of Antioquia, Bolivar, and Cordoba produced 85% of the total (Ministerio de Minas y Energía, 2005, p. 210; Cock and López, 2001§).

Iron and Steel.—Colombia was Latin America's seventh ranked producer of steel with an output of 730,000 metric tons (t) (preliminary) during 2004 (Instituto Latinoamericano del Fierro y el Acero, 2004, table 1). The only integrated steel producer in Colombia was Acerías Paz del Río S.A. with a capacity of about 400,000 metric tons per year (t/yr) of steel. The company, which had been undergoing restructuring since 2003, produced more than 350,000 t/yr in 2004 compared with less than 300,000 t in 2003. The company began the process of improving production technology with the goal of improving efficiencies and increasing production capacity by 40,000 t. Part of the improvement would be to construct a continuous-casting facility, which was scheduled to be operational by 2005 (La República, 2004§).

Nickel.—Colombia was the second ranked world producer of ferronickel after Japan. Cerro Matoso, S.A. was Colombia's only producer of ferronickel. The mine and ferronickel producer was located in Montelíbano, Department of Cordoba; the company was owned by BHP Billiton plc by way of QNI Ltd. In 2004, mine production of nickel from Cerro Matoso exceeded 75,000 t; this was a 6% increase from that of 2003 (table 1). The company produced ferronickel with a nickel content of more than 48,800 t, which was a 2% increase compared with that of 2003 and an increase of 76% increase compared with that of 2000. The 2004 production was about 89% of the company's production capacity, which had been expanded in early 2001. As of June 30, 2004, Cerro Matoso's reserves totaled 50.4 million metric tons (Mt) with a grade of 1.82% nickel (BHP Billiton plc, 2004, p. 199).

Platinum.—Colombia was the only producer of platinum in South America. Production of platinum continued to increase and reached 1,209 kilograms (kg) in 2004; this was a 44% increase compared with that of 2003 and was more than three times the level of production achieved in 2000. Almost all the platinum production (1,193 kg) was from the Department of Choco. Other producing Departments were Antioquia, Bolivar, Cauca, and Risaralda; these Departments produced 5 kg or less each (Ministerio de Minas y Energía, 2005, p. 210).

Silver.—Production of silver in Colombia decreased by 10% in 2004. The leading producing Departments were Antioquia (with 61% of the output) followed by Caldas (21%) and Cordoba (11%) (Ministerio de Minas y Energía, 2005, p. 210).

Industrial Minerals

Cement.—Colombia was Latin America's fourth ranked producer of cement after Brazil, Mexico, and Venezuela.

Production in 2004 increased by 6.6% from the revised figure of 2003 (table 1). Production reached the highest level since 1999 but was lower than that of 1998 when production was almost 8.6 Mt. The largest cement producer in Colombia was Cementos Argos, S.A. with about 50% of Colombia's market share through Cales y Cementos de Toluviejo, S.A., Cementos del Caribe, S.A., Cementos del Nare, S.A., Cementos del Valle, S.A., Cementos El Cairo, S.A., Cementos Ríoclaro, S.A., Cementos Paz del Río, S.A., and Cía Colombiana de Clinker. During the year, these companies produced 5.1 Mt of cement of which about 50% was exported. Also, Cementos Argos began efforts to reorganize the company structure (Cementos Argos, S.A., 2005§).

CEMEX Colombia (a subsidiary of CEMEX S.A. de C.V., which was one of the world's leading cement companies) was Colombia's second leading producer and had about 30% of Colombia's production capacity. CEMEX owned 98.2% of CEMEX Colombia, S.A., which had five cement plants and a capacity of 4.8 Mt/yr. The company's cement volume increased by 8% during the year, and the value of sales increased to \$263 million, which was a 21% increase compared with that of 2003 (CEMEX S.A. de C.V., 2005, p. 23, 30).

Emerald.—Colombia was the world's leading producer of emerald. Official production of emerald, which was based on export data, increased by almost 10% after an increase of 66% in 2003 (Ministerio de Minas y Energía, 2005, p. 68, 211). According to Government estimates, 90% of the emerald was destined for export, and 10% was sold in the country. Despite having a reputation for high quality, the price of Colombia's emerald has decreased significantly in recent years as production has decreased from Cosquez and Muzo (which were two of the mines with the best quality stones) and the depletion of the reserves of those mines and of Chivor. According to several studies, Colombia's mining industry was in need of exploration, investment, new mining technology, improved safety, and environmental mitigation plus training in stone working and a more-sophisticated marketing scheme (Instituto Colombiano de Geología y Minería, 2004, p. 77; Cushing, 2005).

Emerald deposits in Colombia are located in the central region of the country in the sedimentary basin of the Cordillera Oriental. Production was from the Departments of Boyacá and Cundinamarca in the Cinturón Esmeraldífero Oriental (Eastern Emerald Belt) and Cinturón Esmeraldífero Occidental (Western Emerald Belt), respectively; these two regions have a combined area of 730,000 hectares. More than 60 production licenses awarded by the Government were active (Empresa Nacional Minera Ltda., undated§).

Salt.—Production of salt in 2004 increased by almost 18% and almost reached the 2002 level. Salt production in Colombia was by two evaporation operations (marine salt) in Maraure (Department of Guajira), Galerazamba (Department of Bolivar), an underground salt mine in Zipaquirá (Department of Cundinamarca), and by solution extraction in Nemocon (Department of Cundinamarca) and Upin (Department of Meta). The Government of Colombia planned to privatize its salt industry through concessions. Despite the instability of production, exports of salt from Colombia have been increasing. In 2003, 17 countries, which included Spain and the United

States, imported Colombian salt; in 2004, exports also went to Canada and Mexico. The value of exports in 2004 was \$3.9 million (Unidad de Planeación Minero Energética, 2005b).

Mineral Fuels

Coal.—Colombia, which had the largest reserves and was the leading producer of coal in Latin America, produced 53.7 Mt; this was an increase of 7.3% compared with that of 2003 and an increase since 2000 of about 40% (table 1). The leading producer was Carbones del Cerrejón LLC in the Department of La Guajira. Carbones del Cerrejón produced 25 Mt during the year, which was an increase of almost 9% compared with that of 2003 and exported 24.9 Mt with a value of \$1 billion (Carbones del Cerrejón LLC, 2005b§). In 2004, 58% of Carbones del Cerrejón's exports went to Europe, and 20% went to North America (Carbones del Cerrejón LLC, 2005a§).

The second ranked producer was Drummond Ltd. from its property in La Loma, Department of Cesar, with 20.4 Mt, which was a 25% increase compared with that of 2003. In fact, the Departments of Cesar and La Guajira produced more than 92% of Colombia's total coal production. For the first time, the Department of Cesar became the leading producer of coal in Colombia with 46.6% of the total. Most of Colombia's output was thermal coal. Only a small amount (less than 1.4 Mt in 2003) was metallurgical. Most of Colombia's coal production (50.9 Mt) was for export. The country was the fifth ranked exporter of thermal coal, which went mainly to Europe and the United States. Domestic consumption was about 3.1 Mt, which was a decrease compared with that of 2003 when it was 3.7 Mt (revised). Of the total, 75% of the consumption was by the industrial sector; 21%, by the power sector; and the remainder, by the residential sector (Ministerio de Minas y Energía, 2004, p. 207-209).

In July 2004, C.I. Prodeco S.A. (a subsidiary of Glencore International AG) reopened its Calenturitas open pit mine in the Department of Cesar. The mine, which had a capacity of 5,000 million metric tons per year (Mt/yr), produced 612,000 t in 2004 (Glencore International AG, 2005§).

In August, Carbones del Caribe S.A. (a subsidiary of Grupo Argos through Cementos del Caribe S.A.) began the process of selling its La Jagua coal mine in the Department of Cesar to Glencore for \$110 million. According to Grupo Argos, the mine had reserves of more than 130 Mt. The transfer of the company was scheduled for December 31, 2004 (Grupo Argos, 2004§; La República, 2005§). The mine, which produced 2.4 Mt in 2004 and 2.3 Mt in 2003, had been approved for an expansion to 4.5 Mt; a new port facility for export was to be built in Rio Cordoba by the International Finance Corporation. In January 2005, Glencore changed the name of the mine to Carbones de la Jagua S.A. (Glencore International AG, 2005§; International Finance Corporation, 2003§; Sustainable Energy & Development Economy Network, 2004§).

Natural Gas.—By yearend 2004, Colombia's natural gas reserves decreased slightly compared with those of 2003 (revised) to 167 billion cubic meters (reported as 5,896.5 billion cubic feet). Of these reserves, 58% was classified as marketable, and about 40% was classified as nonmarketable

and would be used for internal consumption by the industry. Of total reserves, 40% belonged to Ecopetrol, and the remainder, to the private sector (Ministerio de Minas y Energía, 2005, p. 125; Ecopetrol S.A., 2005§).

The leading producer of natural gas in Colombia was Chevron Texaco Colombia (a subsidiary of ChevronTexaco Corporation) in association with Ecopetrol in the Department of La Guajira. This association produced natural gas from two platforms in the Chuchupa offshore field and from the Ballena onshore field; it produced more than 80% of the natural gas consumed in Colombia (ChevronTexaco Corporation., 2004§).

Petroleum.—At yearend 2004, Colombia's petroleum reserves totaled 1.478 billion barrels. This was a 4% decrease compared with that of 2003 (Ministerio de Minas y Energía, 2005, p. 32, 181; Ecopetrol S.A, 2005§). Production during the year was about 192.9 million barrels (Mbbl), which was a 2.4% decrease compared with that of 2003. At this production rate, crude petroleum reserves would be depleted in about 8 years. Because hydrocarbons had become Colombia's leading economic subsector, the Government has focused its efforts to increase foreign investment in exploration and production of crude petroleum and its associated natural gas and the production and productivity of the refineries. The country results, however, have been limited because of issues concerning the security of the infrastructure and production facilities. Investment in exploration in 2004 was \$218.9 million, of which \$91.9 million was by Ecopetrol and the rest, by the private sector (Ecopetrol S.A, 2005§).

Ecopetrol produced 23% of Colombia's crude petroleum production in 2004 and participated in an additional 35% of the country's production through association contracts with the private sector. BP plc. and Occidental Petroleum Corp. were the two leading private producers in Colombia that worked in association with Ecopetrol with 43% and 25% of total association production, respectively. BP Exploration Company (Colombia) Limited (a subsidiary of BP) was the operator of the Cupiagua and the Cusiana oilfields. Occidental was the operator of the Cano Limon oilfield.

Refinery Products.—Despite Colombia being a net exporter of crude petroleum, it was an importer of refinery products (mainly gasoline). Production for the year was 112.3 Mbbl, which was the equivalent of a capacity utilization of 82%; in 2003, capacity utilization had been 81%. Two refineries operated during the year—Barrancabermeja in the Department of Santander, which was the largest of the refineries, processed 74% of Colombia's crude petroleum during the year, and the Cartagena refinery in the Department of Bolivar processed the remainder. Colombia's refining system was owned and operated by the Government through Ecopetrol (Ecopetrol S.A., 2005§).

Infrastructure

The capacity of Colombia's electrical grid in 2004 was almost 13.4 gigawatts. Electric power generation during the year reached 48,572 gigawatthours (GWh). Of this total, 82% was hydroelectric; 14%, natural gas; 3%, coal base; 0.1%, wind generated; and the remainder, by other methods. Demand for electricity increased to the record-high level of 36,700 GWh.

The leading consumers of electricity were the residential and industrial sectors, which accounted for 43% and 32% of the consumption, respectively. The electrical sector's infrastructure continued to be attacked by anti-Government guerrillas, although at a much lower rate; attacks were reduced to 128 in 2004 from 454 in 2000. During the year, 87 transmission towers were damaged, which was a 74% decrease compared with that of 2003. The cost of the attacks, however, increased by 14% (Ministerio de Minas y Energía, 2005, p. 228, 232, 241, 243, 244).

Colombia was a net exporter of electrical energy. Exports during the year totaled 1,683 GWh. Ecuador was a net importer of Colombian power. The Colombian Government, through UPME, planned to expand the connection between Colombia and Ecuador and to build one between Colombia and Panama. The new connection with Ecuador was planned for completion in 2006. The cost of the project was estimated to be \$75 million; \$53 million would be for the 220-kilometer (km) portion of the Colombian side of the connection, and \$22 million, the 137-km portion of the Ecuadoran side. The connection between Colombia and Panama could begin as early as yearend 2007. This 500- to 600-km connection would cost between \$172 million and \$221 million (Ministerio de Minas y Energía, 2005, p. 91, 102; Alexander's Gas & Oil Connections, 2004a§, b§).

Outlook

Short- and long-term Government efforts in the petroleum sector continued to focus on increasing exploration and production of petroleum. The ANH has been charged with developing a new contract model to increase the participation of the private sector in the country. Because of the depletion of reserves, the country expects to lose its self-sufficiency in petroleum between 2009 and 2011 (Ministerio de Minas y Energía, 2005, p. 17). The Government expects crude petroleum production to decrease to 500,000 barrels per day in 2005. After making significant changes in contracts, royalties, and taxation, however, the Government was hoping to bring \$1 billion in exploration investment through 2020 (Schlumberger, 2005§).

The importance of coal to the Colombian economy is expected to increase. Exports are being stimulated by the expansion of Colombia's two leading producers Cerrejón and Drummond, which are expected to increase their production to at least 30 Mt each. Total exports were expected to exceed 80 Mt in 2012. To achieve this level, however, the companies would have to invest in not only mine capacity expansion but infrastructure and port facilities, which were just large enough to handle production in 2004 (Correal, 2004§).

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Major Sources of Information

Cerro Matoso S.A.
Carr. 7a No. 26-20, Piso 8
Santa Fe de Bogotá, D.C., Colombia
Telephone: (571) 288-7066
Fax: (571) 285-7974

Ecopetrol S.A.
CRA 7 No. 36-24
Santa Fe de Bogotá, D.C., Colombia
Telephone: (571) 285-6400

Instituto de Desarrollo Industrial
Calle 16 No. 6-66, Piso 7
Santa Fe de Bogotá, D.C., Colombia
Telephone: (571) 282-2055
Fax: (571) 286-8166

Instituto de Geología y Minería
Diagonal 53, No. 34-53
Santa Fe de Bogotá, D.C., Colombia
Telephone: (571) 283-0797
Fax: (571) 283-0797

TABLE 1
COLOMBIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2000	2001	2002	2003	2004
METALS					
Copper, mine output, Cu content	2,065	2,192	1,853	1,578	1,701
Gold kilograms	37,018	21,813	20,823	46,515	37,739
Iron and steel:					
Iron ore and concentrate	660,109	636,837	688,106	625,002	642,546
Pig iron	272,254	318,953	312,879 ^r	288,214 ^r	316,025
Steel, crude	659,882	638,259	663,724	668,410	730,000
Semimanufactures, hot-rolled ^c	650,000	552,000 ²	575,000	550,000	575,000
Lead:					
Mine output, Pb content ^c	226 ²	220	220	220	220
Refined (secondary) ^c	12,000	12,000	12,000	12,000	12,000
Nickel:					
Mine output, Ni content	58,927	52,962	58,196	70,844	75,032
Ferronickel, Ni content	27,730 ^r	38,438 ^r	43,987	47,868	48,818
Platinum kilograms	339	674	661	828 ^r	1,209
Silver do.	7,970	7,242	6,986	9,511	8,533
Zinc, mine output, Zn content ^c	42 ²	40	40	40	40
INDUSTRIAL MINERALS					
Asbestos, mine output	59,249	96,140	62,785	60,000 ^e	60,000 ^e
Barite ^c	600	600	600	600	600
Cement, hydraulic ³	7,135,327 ^r	6,830,423 ^r	6,063,895 ^r	7,337,398 ^r	7,822,386
Clays: ^e					
Bentonite	8,500	8,500	8,500	8,500	8,500
Common clay and kaolin thousand metric tons	8,400	8,400	8,400	8,400	8,400
Diatomite ^c	4,000	4,000	4,000	4,000	4,000
Feldspar ^c	55,000	55,000	55,000	55,000	55,000
Fluorite ^c	800	800	800	800	800
Gemstones, emerald ⁴ thousand carats	8,454	5,499	5,390	8,963	9,825
Gypsum ^c	560,000	560,000	560,000	560,000	560,000
Lime, hydrated and quicklime thousand metric tons	13,000 ^e	11,472	10,624	11,000	11,000
Magnesite ^c	10,500	10,500	10,500	10,500	10,500
Mica ^c	55	55	55	55	55
Nitrogen, N content of ammonia	92,900	95,200	110,900 ^r	107,800 ^r	98,200
Phosphate rock ^c	42,615 ²	43,000	43,000	43,000	43,000
Salt:					
Rock	177,690	110,212	191,554	199,364	231,721
Marine	282,188	285,073	335,783	247,901	294,343
Total	459,878	395,285	527,337	447,265	526,064
Sodium compounds, n.e.s., sodium carbonate ^c					
	125,000	125,000	125,000	125,000	125,000
Stone and sand: ^c					
Calcite	6,500	6,500	6,500	6,500	6,500
Dolomite thousand metric tons	45	45	45	45	45
Limestone for cement ² do.	9,989 ^r	9,563 ^r	9,245 ^r	10,272 ^r	10,951
Marble ^c	190,000	190,000	190,000	190,000	190,000
Sand, excluding metal-bearing	925,000	925,000	925,000	925,000	925,000
Sulfur:					
Native (from ore)	91,966 ^r	69,344 ^r	60,162 ^r	73,024 ^r	75,000 ^e
Byproduct, from petroleum	16,000	15,465	15,500 ^e	15,500 ^e	15,500 ^e
Total	107,966 ^r	84,809 ^r	75,662 ^r	88,524 ^r	90,500 ^e
Talc, soapstone, pyrophyllite ^c	15,000	15,000	15,000	15,000	15,000
MINERAL FUELS AND RELATED MATERIALS					
Carbon black ^c	24,000	24,000	24,000	24,000	24,000
Coal thousand metric tons	38,242 ^r	43,911 ^r	39,484 ^r	50,028 ^r	53,693
Coke, all types ^c do.	615	615	615	615	615

See footnotes at end of table.

TABLE 1--Continued
 COLOMBIA: PRODUCTION OF MINERAL COMMODITIES^{1, 2}

(Metric tons unless otherwise specified)

Commodity	2000	2001	2002	2003	2004	
MINERAL FUELS AND RELATED MATERIALS--Continued						
Gas, natural:						
Gross	million cubic meters	34,023	35,850	33,789	36,417	35,600 ^e
Marketed	do.	5,982	6,207	6,234	5,975	6,404
Natural gas liquids ^c	thousand 42-gallon barrels	2,600	2,600	2,600	2,600	2,600
Petroleum:						
Crude	do.	250,755	220,460	211,007	197,586	192,866
Refinery products:						
Liquefied petroleum gas	do.	8,177	8,503	8,089	8,797	7,257
Gasoline:						
Aviation	do.	147	142	69	315	320
Motor	do.	41,636	43,259	39,775	40,190 ^r	41,909
Jet fuel	do.	8,263	9,032	9,032	9,770	7,521
Kerosene	do.	213	162	151	1,093	256
Medium distillate fuel oil	do.	22,604	24,220	23,678	23,912	26,573
Lubricants ^c	do.	383 ²	397	398	400	400
Residual fuel oil (black oil)	do.	19,408	20,639	20,767	19,413	21,972
Asphalt ^c	do.	1,242 ²	1,000	1,000	1,000	1,000
Refinery fuel and losses and unspecified products ^c	do.	4,087	3,190 ^e	2,620 ^e	2,124 ^r	5,067
Total	do.	106,160	110,544	105,579	107,014 ^r	112,275

^c Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^r Revised.

¹ Includes data available through October 21, 2005.

² Reported figure.

³ Excludes white portland cement produced in the country. Production capacity of white portland cement was about 200,000 metric tons.

⁴ Based on registered exports by the Banco de la República.

TABLE 2
COLOMBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2004

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Carbon black		Cabot Colombiana, S.A. (private, 100%)	Cartagena, Bolivar Department (plant)	NA.
Do.		Productos Petroquímicos, S.A. (private, 100%)	Cali, Valle del Cauca Department (two plants)	12.
Cement		Cía. Colombiana de Clinker, S.A. (Cementos Argos, 100%)	Cartagena, Bolivar Department (plant)	1,250.
Do.		Cementos del Caribe, S.A. (Cementos Argos, 74%)	Barranquilla, Atlantico Department	1,500.
Do.		Cementos del Valle, S.A. (Cementos Argos, 70%)	Yumbo, Valle del Cauca Department	1,500.
Do.		Cales y Cementos de Toluviejo, S.A. (Cementos Argos, 95%)	Toluviejo, Sucre Department	980.
Do.		Cementos del Nare, S.A. (Cementos Argos, 100%)	Puerto Nare, Antioquia Department	200.
Do.		Cementos El Cairo, S.A. (Cementos Argos, 100%)	Montebello, Antioquia Department	450.
Do.		Cementos Paz del Río, S.A. (Cementos Argos, 62%)	Belencito, Boyaca Deapartment	880.
Do.		Cementos Rioclaro, S.A. (Cementos Argos, 99%)	Sonson, Antioquia Department	1,400.
Do.		Cementos Boyacá, S.A. (Holcim Group, 100%)	Nobsa, Boyaca Department	1,800.
Do.		CEMEX Colombia S.A. (CEMEX S.A. de C.V., 98.2%)	Bucaramanga, Santander Department; Buenos Aires, Tolima Department; Pamplona, Norte de Santander Department; La Calera, Cundinamarca	4,800.
Coal		Carbones del Cerrejón LLC (Anglo American Plc; 33.3%; Glencor International AG, 33.3%; BHP Billiton Plc, 33.3%)	Carrejon Centro mines, Carrejon Sur mines, Carrejon Zona Norte, and Oreganal Mines, La Guajira Department	27,500.
Do.		Drummond Ltd. (Drummond Co. Inc., 100%)	La Loma Mine (Pribbenow), Cesar Department	22,000.
Do.		C.I. Prodeco S.A. (Glencore International AG, 100%)	Calenturitas in Cesar Department	5,000.
Do.		Acerías Paz del Río, S.A. (private, 100%)	Paz del Rio, Department (mine)	600.
Copper		Minera El Roble, S.A.	El Roble Mine, El Carmen, Choco Department	3.
Gemstones, emerald		Minerales de Colombia, S.A. (MINERALCO) (Government, 100%)	Chivor, Coscuez, Muzo, and Quipama Mines, Boyaca Department	NA.
Gold	kilograms	Frontino Gold Mines Ltd. (private, 100%)	El Silencio Mine, Segovia District and Providencia Mine, Remedios District, Antioquia Department	1,500.
Do.	do.	Grupo de Bullet S.A.	El Limon Oronorte Mine, Segovia, Antioquia Department	1,000.
Do.	do.	Mineros de Antioquia, S.A. (private, 100%)	El Bagre, Rio Nechi, Antioquia Department	2,000.
Do.	do.	Small miners (cooperatives and individual prospectors)	do.	NA.
Iron ore		Acerías Paz del Río, S.A.	Paz del Rio, Boyaca Department (mine)	800.
Kaolin		Cerámicas del Valle Ltda., (private, 100%)	Yumbo, Valle del Cauca Department (mine)	NA.
Natural gas	million cubic meters	Ecopetrol S.A. (Government, 100%)	North coast, La Guajira Department (national gasfields)	4,500.
Do.	do.	International Petroleum Colombia, Ltd. (International Petroleum Corp., 100%)	Barrancabermeja locale, Antioquia and Santander Departments	2,200.
Nickel		Cerro Matoso, S.A. [QNI Ltd. 100% (owned by BHP Billiton Plc 100%)]	Cerro Matoso Mine, Montelibano, Cordoba Department	55 plant.

See footnotes at end of table.

TABLE 2--Continued
 COLOMBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2004

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Nitrogen		Abonos de Colombia (private, 100%)	Cartagena, Bolivar Department (plant)	100.
Do.		Monómeros Colombo-Venezolanos, S.A. (private, 100%)	Barranquilla, Atlantico Department (plant)	85.
Petroleum ¹	thousand 42-gallon barrels	Ecopetrol S.A.	16 fields in various Departments	70,000.
Do.	do.	HOCOL, S.A.	14 fields in various Departments	36,500.
Petroleum products	do.	Ecopetrol S.A.	Barrancabermeja refinery, Norte de Santander Department	81,400.
Do.	do.	do.	Cartegena refinery, Bolivar Department	28,000.
Do.	do.	do.	Tibu, Norte de Santander Department	1,825.
Do.	do.	do.	Orito, Putumayo Department	875.
Phosphate rock		Fosfatos de Colombia, S.A. (private, 100%)	Neiva, Huila Department	30.
Do.		Fosfatos Boyacá, S.A. (Government, 100%)	Iza, Boyaca Department	20.
Do.		Siderúrgica del Boyacá, S.A. (private, 100%)	Santa Fe de Bogota	NA.
Do.		Siderúrgica del Medellín, S.A. (private, 100%)	Medellin, Antioquia Department	NA.
Do.		Siderúrgica del Muna, S.A. (private, 100%)	Chusaca, Federal District	NA.
Do.		Siderúrgica del Pacífico, S.A. (private, 100%)	Cali, Valle del Cauca Department	NA.
Sulfur		Industrias Purace, S.A. (private, 100%)	El Vinagre Mine, Cauca Department	60.
Do.		Ecopetrol S.A.	Barrancabermeja, Santander Department	29.

NA Not available.

¹These two petroleum entries are examples only. Colombia has more than 3,000 producing wells drilled by Government and private companies; these wells have combined capacities that exceed 755,000 barrels per day of oil.