

2005 Minerals Yearbook

VENEZUELA

By Ivette E. Torres

Venezuela, which was South America's fifth most populous country after Brazil, Colombia, Argentina, and Peru, had 26.6 million inhabitants in 2005. With an area of 912,050 square kilometers (km²), it is South America's sixth largest country. The country's gross domestic product (GDP) in terms of purchasing power parity was \$164.4 billion¹ compared with \$110.1 billion² in 2004 (revised) (International Monetary Fund, 2006a§³; World Bank, The, 2006§). In real terms, the GDP increased by 9.3%, which was a significant increase for the second consecutive year. Improved overall economic activity, which was led by a 23% increase in construction and a 9.3% increase in manufacturing, was the main reason for the increase in the GDP; the GDPs of Venezuela and the Dominican Republic had the highest growth rates of the Americas. Unemployment increased to 15% in the first half of the year and decreased to 13% in the second half of the year. The second highest unemployment level (18.4%) was in the hydrocarbons, mining, and quarrying sector. Inflation was 15.9%, which was an improvement compared with that of 2004 when it was 21.7% (Banco Central de Venezuela, 2006a§, b§; International Monetary Fund, 2006b§, c§; World Bank, The, 2006§).

Production

In 2005, Venezuela was an important producer of nonfuel mineral commodities in the Latin American region, although it held modest ranking in terms of world output (table 1). According to U.S. Geological Survey data, Venezuela was the world's 8th ranked producer of bauxite, the 9th ranked producer of alumina, and the 12th ranked producer of aluminum. In Latin America, it was the second ranked producer of primary aluminum (after Brazil), coal (after Colombia), iron ore, and phosphate rock (after Brazil); the third ranked producer of bauxite and alumina (after Brazil and Jamaica) and cement (after Brazil and Mexico); and the fourth ranked producer of steel (after Brazil, Mexico, and Argentina). In the Americas, Venezuela was the third ranked producer of bauxite (after Brazil and Jamaica) and phosphate rock (after the United States and Brazil), the fourth ranked producer of primary aluminum (after the United States, Canada, and Brazil), and the fifth ranked producer of alumina (after the United States, Brazil, Jamaica, and Suriname). Venezuela was the third ranked producer of crude petroleum in the Americas (after the United States and Mexico).

Government Policies and Programs

In January 2005, the responsibilities of the mineral sector were transferred from the Ministerio de Energía y Minas, which

²In current international dollars.

became the Ministerio de Petróleo y Energía, to the newly created Ministerio de Industrias Básicas y Minería (MIBAM). MIBAM was organized into three areas: the Viceministerio de Industrias Básicas, the Viceministerio de Minas, and the Viceministerio de Promoción e Inversión. The Governmentowned mineral and industrial producer Corporación Venezolana de Guayana (C.V.G.) and its companies and the Instituto Nacional de Geología y Mina were assigned to the new Ministry.

In September, the Government announced that it would annul inactive gold and diamond concessions and contracts of the private domestic and foreign companies and suspend permits if the appropriate processes had not been followed. The Government also announced plans to create a state mining company similar to the country's petroleum company Petróleos de Venezuela, S.A. (PDVSA). The new company, Empresa de Producción Social Nacional Minera (EPS Nacional Minera), which was established to explore and produce minerals (with emphasis on diamond and gold), would absorb the Government mining company C.V.G. Minerven and would take over the inactive mining concessions (Reuters, 2005§).

Later in September, the Government announced that, in an effort to regain control of its mining sector, it would stop granting mining concessions for diamond and gold mining to the private sector and that EPS Nacional Minera would begin operating on January 1, 2006. As a result of these changes, all mining concessions and contracts were being reviewed by the Government (Bloomberg, 2005§).

The Government of Venezuela had a number of operation contracts with private companies that had been the result of several contract bids that began in the 1990s in what was then called "La Apertura Petrolera" (the opening of the petroleum sector). This participation of the private sector was seen as a way to bring investment and new technology to Venezuela's petroleum production process. During 2005, the Government of Venezuela announced that the terms of the existing contracts were illegal under the Constitution and proceeded to change the operating contracts to joint ventures in which the Government holds the majority interest (at least 60%). The maximum taxes were increased to 50% from 36%, and royalties, which were related to the production from the Orinoco Belt, were increased to 16.6% from 1% in 2005 and to more than 30% in early 2006. At the time of the announcement, 18 companies held 32 operating agreements. These companies were given until March 2006 to transition to the new terms (Venezuelan Views, News and Analysis, 2006§).

In 2005, Venezuela and 13 Caribbean countries signed an energy cooperation agreement through which a new permanent intergovernmental organization, PetroCaribe, was formed. Barbados and Trinidad and Tobago did not become members of the new organization. Through PetroCaribe, Venezuela was to sell crude petroleum at preferential financing terms to the signatory countries. The new agreement, which is similar to the Caracas Energy Agreement and the San José Accord, improves

THE MINERAL INDUSTRY OF VENEZUELA

¹Where necessary, values have been converted from Venezuelan Bolivars (Bs) to U.S. dollars (US\$) at the rate of Bs 2,111.67=US\$1.00.

³References that include a section mark (§) are found in the Internet References Cited section.

the terms of the previous agreements by allowing financing of up to 25% of the cost with a grace period of 1 year to be paid in 15 years at a 2% interest rate. When the price exceeds \$40 per gallon, the payment period would be extended to 25 years (23 years plus a 2-year grace period), the interest would be reduced to 1%, and the short-term payment would be extended from 30 days to 90 days. To Venezuela, PetroCaribe was not just an energy agreement; rather, it was one of the means to achieve economic and political integration in Latin America and the Caribbean (Petróleos de Venezuela S.A., 2005d§; Punto Final, 2006§). Another important step for Venezuela's vision of Latin American integration was for it to become a full member of the Mercado Común del Sur (Mercosur). In December, the executive body of Mercosur ratified Venezuela's membership and Venezuela became a full member of the organization (BBC News, 2005§; Embassy of the Bolivarian Republic of Venezuela in the UK, 2005a§, e§).

In April 2005, the President of Venezuela and the Vice President of China signed 19 cooperation agreements, which included mining and oil and gas projects (ChinaDaily, 2005§). Venezuela has been strengthening its relationship with China for several years. One of the immediate plans was for Venezuela to increase its exports of crude and extra heavy crude to China. Later in the year, the China Petroleum Corporation and the Government of Venezuela signed two contracts for Venezuela to export 160,000 barrels per day (bbl/d) of crude petroleum for a year and 60,000 bbl/d of fuel oil for 2 years to China. Venezuela's goal was to increase exports of crude petroleum and refinery products to China to 300,000 bbl/d (Embassy of the Bolivarian Republic of Venezuela in the UK, 2005b§).

Late in 2005, Venezuela, which was a member of the Comunidad Andina de Naciones (CAN), proposed to the other member countries that CAN stop exporting raw minerals and mineral products (bauxite, iron ore, steel) and instead use those materials to produce finished products for export. The proposal was on the agenda for discussion at CAN's upcoming meeting as an issue of regional development (Embassy of the Bolivarian Republic of Venezuela in the UK, 2005f§).

Commodity Review

Metals

Aluminum.—The Government announced that construction of an additional aluminum production line for the C.V.G. Venezolana de Alumino S.A. (Venalum) smelter, which would increase production capacity to 715,000 t, would begin in November 2005. Plans called for the additional production capacity to be available in 2008 (Metal Bulletin, 2005). In addition to this expansion, the Government planned to increase Venalum's sales to the domestic market as part of MIBAM's plan to increase the production of finished products in the country and reduce the export of intermediate products. Venezuela's other aluminum producer, Aluminios del Caroní S.A. (Alcasa), was studying the possibility of constructing an extrusion plant. Such a project would be in line with MIBAM's plan to create a downstream industry to replace imports (Vheadline, 2005§).

Gold.—Although official gold production statistics were unavailable, Hecla Mining Company reported that it was the leading producer of gold and had produced about 3,160 kilograms (kg) (reported as 101,474 troy ounces) from La Camorra Mine in the State of Bolivar, which was operated by Minera Hecla Venezolana, C.A. The profitability of the mine had decreased as the total production cost increased to \$337 per troy ounce. The cost increase was due in part to changes in the mine design and environmental costs, as well as labor issues and currency issues. During the year, the ore grade decreased by 18%. The company completed the construction of a shaft, which would reduce the haulage cost in 2006 when full production capacity was reached at Mina Isadora. The company's gold reserves in Venezuela were low (about 13,700 kg, which were reported as 441,392 troy ounces), but the company continued its exploration efforts (Hecla Mining Company, 2006, p. 4, 7, 9).

Another gold producer in the State of Bolivar was Crystallex International Corp. of Canada, which produced about 1,650 kg (reported as 53,178 troy ounces) of gold at the Revemin mill, more than 90% of which was from its Tomi concession. The remainder was from Crystallex's La Victoria Mine (8%), which was part of Lo Increible property, and from local cooperatives (about 2%). The company continued its exploration efforts during the year and awaited approval of an environmental permit from the Government for its Las Cristinas property in Kilometro 88 in the State of Bolivar (Crystallex International Corp., 2006, p. 1, 6).

Late in 2005, Gold Fields Limited of South Africa announced that it was acquiring the Choco-10 multi-pit mine with potential for underground production in El Callao in the State of Bolivar through the acquisition of Bolivar Gold Corporation. The Choco-10 was a new gold mine that began production in August 2005 and had reserves of about 37,300 kg (reported as 1.2 million troy ounces) of gold. During the first quarter of 2006, production from Choco-10 was 787 kg; this production was lower than the company had anticipated. Gold Fields planned to make improvements to the carbon-in-leach plant to improve the metal recovery (Gold Fields Limited, 2006§).

Iron and Steel.—Venezuela's production of crude steel was 4.9 million metric tons (Mt), which was a 7% increase compared with that of 2004. Production during the year was from the private sector with the Government holding a minority interest in SIDOR C.A., which was the country's leading producer. In September, the President of Venezuela announced that the Government would renationalize SIDOR if the company did not agree to produce seamless pipes, which were used by the petroleum industry and were costing Venezuela \$1 billion per year to acquire (Diario Exterior, 2005§).

Industrial Minerals

Cement.—In June, the Venezuelan National Assembly approved the construction of a cement plant in the municipality of Piar in the State of Monagas. The plant, which was a joint venture between C.V.G. (51%) and the Iranian company Ehdasse Sanat Corporation, was under the umbrella of the technical cooperation agreement between the two countries, which was signed in March. The estimated cost for the construction of the plant, which would have a production capacity of 1 million metric tons per year (Mt/yr) and was scheduled to begin production in 4 years, was \$196 million (Asamblea Nacional de la República Bolivariana de Venezuela, 2005§; Radio Nacional de Venezuela, 2005§).

Mineral Fuels

Coal.—For years, the Government had plans to increase its coal production capacity significantly. However, production increases for the past 5 years were modest. One of the largest increases was expected to come from the Socuy project in the State of Zulia. Another project was the smaller Cosila project. During the year, some progress was made on Socuy's development. Early in 2005, the project was among a number of bilateral agreements signed between the Governments of Brazil and Venezuela. The Socuy agreement followed the signing (in 2004) of a memorandum of understanding (MOU) between the Government-owned company Corporación de Desarrollo de la Región Zuliana and Brazil's Companhia Vale do Río Doce for exploration of the Socuy project. Environmental impact studies for the project were completed and production would begin at 500,000 metric tons per year (t/yr) of coal with proposed expansion to 10 Mt/yr. By yearend, however, the Government of Venezuela had not given permission for the project to proceed. Socuy's reserves were 1.38 billion metric tons of coal, of which 375 Mt could be produced by open pit and 756 Mt could be produced by underground mining (Soberanía, 2006§).

Excel Coal Limited, through its subsidiary Excelven S.A., which owned a 31% equity interest in the Cosila coal project in the State of Zulia, increased its interest in the project to 49% and acquired the export facilities in the Port of Palmarejo from Tomen America. The \$40 million project, which was scheduled to begin operation in 2006, was expected to produce 2 Mt/yr of coal for 15 years. The export facility at Palmarejo was expected to be expanded to 5 Mt/yr from 1 Mt/yr (Excel Coal Limited, 2006).

Opposition to Venezuela's coal expansion was evident in 2005 when a group of indigenous people and their supporters protested coal mining activity in the Sierra de Pejira in the State of Zulia (Venezuelan Views, News and Analysis, 2005§). Nonetheless, another coal mine was being developed in the State of Anzoategui. The Naricual coal underground mine, which had been a producer in the 1980s, was scheduled to reopen at yearend 2006. Carbones Nueva Naricual C.A. (a company that was owned by Chilean investors) won the bid to open two of the nine lots that were open for bid (Pastora 1 and Pastora 2). Plans called for production to begin at a rate of 500,000 t/yr, with the possibility of expansion to 1.2 Mt/yr in 2008 or 2009. The mine has reserves of 15 Mt of coal (CoalTrans International, 2006; El Tiempo, 2007§).

Natural Gas.—Despite changes to the private participation petroleum sector during the year, the Government of Venezuela proceeded with the plan to increase the production of nonassociated offshore gas through the Rafael Urdaneta project production bids. The project, which covers 29 blocks, of which 18 are located in the Gulf of Venezuela and 11 are located in the State of Falcon, cover an area of 30,000 km². The first phase

of the project would grant six blocks (five exploration blocks and one development block). The terms of the licenses would be 30 years for exploration and production with Government participation of up to 35% through PDVSA. The companies would have to pay 20% in royalties and 34% in income tax. The first priority for the Government was to reduce the gas deficit in Venezuela's supply to cover its demand. The companies, though, could begin exporting their excess gas production in 2008, with approval from the Government. In August, the Government announced that it had received the bids for phase A of the project. In September, it announced that bids were made for three of the six blocks. Grazprom of Russia won the right to operate the Urumaco I and Urumaco II blocks for \$15.2 million and \$24.8 million, respectively. Chevron Corp. bid \$5.6 million for Cardón III. The second phase of the project, which comprises four blocks outside of the Gulf of Venezuela, would be put up for bid next (Petróleos de Venezuela, S.A., 2005a§; b§).

Petroleum.—At yearend, the Government of Venezuela announced that it had agreed with the Government of Brazil to build a \$2.5 billion crude oil refinery in northwest Brazil to process Venezuelan heavy crude and Brazilian offshore crude. Construction of the 200,000-bbl/d refinery would begin in 2008, and the refinery was scheduled to come onstream in 2011. This would be the first refinery built in Brazil in 30 years (Embassy of the Bolivarian Republic of Venezuela in the UK, 2005c§, d§).

Infrastructure

At yearend, the Governments of Argentina, Brazil, and Venezuela signed an MOU to build a 6,000-kilometer (km) natural gas pipeline that would carry Venezuelan natural gas to the south and would connect to Rio de Janeiro and Buenos Aires, with connections to other existing pipelines. The pipeline, which would cost an estimated \$17 billion to \$20 billion, would take 5 to 7 years to complete. Planning for the project, which was still in the early stages, would begin with a proposal in 2006 (Platts, 2006§).

Outlook

Venezuela's real GDP is expected to continue to grow in 2006 and 2007, although at a slower rate than in 2005. Projections called for a 7.5% increase in 2006 and a 3.7% increase in 2007 (International Monetary Fund, 2006b§).

In 2005, the Government expressed its intention to reform its mining legislation. One of the possibilities was to convert the mining concessions to operating contracts or joint ventures with the state company C.V.G. (Behre Dolbear, 2006). This would be consistent with the changes made to the petroleum sector in 2005 and could impact mineral output and development significantly. The country has a number of plans regarding the mining, basic industries, and petroleum sectors. The new plans and proposed legislation are geared toward the integration of the Caribbean, Central American, and South American economies and policies. A significant part of the plan would involve the construction of infrastructure to deliver oil and natural gas throughout the region. Because Venezuela has the largest reserves of crude petroleum in the region, such integration would give the country a significant advantage in marketing petroleum and natural gas in the region in the long term.

Venezuela exports a large portion of its iron ore and iron and steel intermediate products and it imports a large percentage of its consumption of finished steel products. As a result, the Government announced its intention to construct a 1.5-Mtcapacity steel company that will produce finished products mainly for the infrastructure, naval, and oil and gas sectors. A feasibility study for the steel complex was scheduled to begin in 2006 and would be a small part of the \$3 billion that C.V.G. was planning to invest in 2006 (Ministerio de Industrias Básicas y Minería, 2005; Panorama, 2005§).

Venezuela plans to increase its production of crude petroleum to 5.8 million barrels per day (Mbbl/d), of which 4.9 Mbbl/d was expected to be from PDVSA. The remainder is expected to come from joint ventures and association contracts. This would mean that PDVSA's participation in Venezuela's total output would be slightly less in 2012 than it was in 2005 (69% of total production) (Petróleos de Venezuela S.A, 2005c).

References Cited

Behre Dolbear, 2006, Global Mining News, New Venezuelan law to facilitate gold concessions transfers: Behre Dolbear, issue no. 89, March 20, p. 12.

CoalTrans International, 2006, Venezuelan mine to start in Q4: CoalTrans International, v. 21, no. 3, May/June, p. 5.

Crystallex International Corp., 2006, Company annual report: Toronto, Ontario, Canada, Crystallex International Corp., March 27, 79 p.

Excel Coal Limited, 2006, Quarterly report to December 31, 2005: Sidney, Australia, Excel Coal Limited, January 25, 5 p.

Hecla Mining Company, 2006, Company annual report: Coeur d'Alene, Idaho, Hecla Mining Company, 114 p.

Metal Bulletin, 2005, Venalum to start building No 6 potline this year: Metal Bulletin no. 8900, July 4, p. 9.

Ministerio de Industrias Básicas y Minería, 2005, Proyectos sometidos a consideración del FONDEN: Caracas, Venezuela, Ministerio de Industrias Básicas y Minería, 46 p.

Internet References Cited

Asamblea Nacional de la República Bolivariana de Venezuela, 2005 (June 16), Parlamento dio luz verde a planta de cemento en Monagas [Parliament gave green light to cement plant in Monagas], accessed January 22, 2007, at URL http://www.asambleanacional.gov.ve/ns2/noticia.asp?numn=7500.

Banco Central de Venezuela, 2006a, Programa de estimaciones del BIP trimestral por clase de actividad económica a precios constantes de 1997 [Estimates of quarterly gross domestic product by type of economic activity at constant prices 1997], accessed January 16, 2007, at URL http://www.bcv.org/excel/5_2_4.xls?id=332.

Banco Central de Venezuela, 2006b, Tasas de desocupación por rama de actividad enonómica [Unemployment rate by economic sector], accessed January 16, 2007, at URL http://bcv.org.ve/excel/6_1_1.xls?id=100.

BBC News, 2005 (October 17), Venezuela to fully join Mercosur, accessed January 22, 2007, at URL http://news.bbc.co.uk/1/hi/world/ americas/4348730.stm.

Bloomberg, 2005 (September 27), Venezuela State mining company to start operations, accessed January 17, 2006, at URL http://www.bloomberg.com/ apps/news?pid=10000082&sid=a7EJEmk_ocd0&refer=canada.

ChinaDaily, 2005 (April 12), China and Venezuela sign oil agreements, accessed April 12, 2005, at URL http://www.chinadaily.com.en/english/ doc/2005-01/30/content_413475.htm.

- Diario Exterior, 2005 (October 27), Chávez amenaza con expropiar Sidor, la mayor siderárgica de Venezuela [Chavez threatens to expropriate Sidor, Venezuela's largest steel company], accessed July 6, 2006, at URL http://www.eldiarioexterior.com/noticias.asp?idarticulo=7375&subtema=.
- El Tiempo, 2007 (January 22), Concesionaria chilena reactivará Minas de Naricual en enero [Chilean company will reopen Naricual Mines in January], accessed January 22, 2007, at URL http://www.eltiempo.com.ve/noticias/ default.asp?id=93437.

Embassy of the Bolivarian Republic of Venezuela in the UK, 2005a (December 9), Executive body of Mercosur ratifies Venezuela's entry—Agrees on parliament, accessed January 10, 2006, at URL http://venezlon.co.uk/newslwtter/ new_newsletter/dec/eco28.htm.

Embassy of the Bolivarian Republic of Venezuela in the UK, 2005b (November 16), PDVSA studies crude and fuel oil transport options, accessed January 10, 2006, at URL http://venezlon.co.uk/newslwtter/new_newsletter/ nov/ene14.htm.

Embassy of the Bolivarian Republic of Venezuela in the UK, 2005c (December 16), Presidents Lula and Chávez begin works, accessed January 10, 2006, at URL http://venezlon.co.uk/newslwtter/new_newsletter/ dec/ene17.htm.

Embassy of the Bolivarian Republic of Venezuela in the UK, 2005d (December 17), Presidents of Brazil and Venezuela push to integrate infrastructure and economies, accessed January 10, 2006, at URL http://venezlon.co.uk/newslwtter/new_newsletter/dec/ene16.htm.

Embassy of the Bolivarian Republic of Venezuela in the UK, 2005e (October 17), Venezuela to fully join Mercosur, accessed April 26, 2006, at URL http://venezlon.co.uk/newslwtter/new_newsletter/oct/eco9.htm.

Embassy of the Bolivarian Republic of Venezuela in the UK, 2005f (December 7), Venezuela to submit Andean Community new mining integration project, accessed January 10, 2006, at URL http://venezlon.co.uk/ newslwtter/new_newsletter/oct/eco33.htm.

Gold Fields Limited, 2006, Operations, Choco 10 gold mine, accessed January 22, 2007, at URL http://www.goldfields.co.za/book_index.asp?book mark=mediareleasesdisplay.asp.

International Monetary Fund, 2006a (September), Gross domestic product based on purchasing power parity (PPP) of country valuation, World Economic Outlook Database, accessed January 16, 2007, via URL http://www.imf.org/ external/pubs/ft/weo/2006/02/data.

International Monetary Fund, 2006b (September), Gross domestic product— Constant prices— Annual percentage range, World Economic Outlook Database, accessed January 16, 2007, via URL http://www.imf.org/external/ pubs/ft/weo/2006/02/data.

International Monetary Fund, 2006c (September), Inflation—Consumer prices— Annual percent change, World Economic Outlook Database, accessed January 16, 2007, via URL http://www.imf.org/external/pubs/ft/weo/2006/02/ data.

Panorama, 2005 (November 14), CVG invertirá 3 millardos de dólares en 2006 [CVG will invest \$3 billion in 2006], accessed November 14, 2005, at URL http://www.panorama.com.ve.

Petróleos de Venezuela, S.A., 2005a, Anuncian ganadores de fase A de Proyecto Rafael Urdaneta, accessed December 8, 2005, at URL http://www.pdvsa.com/ index.php?tpl=interface.sp/design/salaprensa/readnew.tpl.html&newsid_obj_ id=694&newsid_temas=1.

Petróleos de Venezuela, S.A., 2005b, Empresas entregaron ofertas para la fase A del Proyecto Rafael Urdaneta [Companies made offers for phase A of the Rafael Urdaneta Project], accessed December 8, 2005, at URL http://www.pdvsa.com/index.php?tpl=interface.sp/design/salaprensa/readnew.tpl.html&newsid_obj_id=587&newsid_temas=1.

Petróleos de Venezuela, S.A., 2005c, Exploración elevará producción a más de 5 millones 800 mil barriles [Exploration will increase production to more than 5 million 800 thousand barrels], accessed December 8, 2005, at URL http://www.pdvsa.com/index.php?tpl=interface.sp/design/salaprensa/ readnew.tpl.html&newsid_obj_id=511&newsid_temas=1.

Petróleos de Venezuela, S.A., 2005d, Petrocaribe, accessed January 22, 2007, at URL http://www.pdvsa.com/index.php?tpl=interface.sp/design/readmenuprinc.tpl.html&newsid_obj_id=174&newsid_temas=48.

Platts, 2006 (January 13), South American gas pipeline could cost \$20-bil, accessed January 19, 2006, at URL http://www.platts.com/Natural Gas/ News/7201653.xml?S=n.

Punto Final, 2006, Venezuela impulsa estrategia energética integracionista [Venezuela pushes for an energy strategy of integration], accessed January 22, 2007, at URL http://www.puntofinal.cl/619/venezuela.htm.

Radio Nacional de Venezuela, 2005 (August 2), Mibam anuncia reactivación de planta de cemento en Monagas [Mibam announces reactivation of cement plant in Monagas], accessed January 22, 2006, at URL http://www.rnv.gov.ve/ noticias/index.php?act=ST&f=19&t=21106.

Reuters, 2005 (September 13), Venezuela reviews state control of inactive mines, accessed September 21, 2005, at URL http://olm.blythe-systems.com/ pipermail/nytr/Week-of-Mon-20050912/023423.html.

Soberanía, 2006 (February 13), El Gobierno nacional decidirá el destino del projecto Socuy [The National Government will decide the future of the Socuy project], accessed October 16, 2006, at URL http://www.soberania.org/ Articulos/articulo 1932.htm.

Venezuelan Views, News and Analysis, 2005 (April 5), Venezuela's indigenous peoples protest coal mining, accessed January 19, 2007, at URL http://www.venezuelanalysis.com/articles.php?artno=1414.

Venezuelan Views, News and Analysis, 2006 (April 5), Venezuela takes over two foreign operated oil fields, accessed May 9, 2006, at URL http://www.venezuelanalysis.com/news.php?newsno=1935.

Vheadline, 2005, Venezuela's Alcasa mulls installing aluminum extrusion plant in Guayana region, accessed September 9, 2005, at URL http://www.vheadline.com/printer_news.asp?id=45700.

World Bank, The, 2006 (July 1), World indicators database, Population 2005, accessed September 30, 2006, at URL http://siteresources.worldbank.org/ DATASTATISTICS/Resources/POP.pdf.

Major Sources of Information

Ministerio de Energía y Petróleo de Venezuela Edificio Petróleos de Venezuela, Torre Oeste Av. Libertador con Av. Empalme Urb. La Campiña, Parroquia El Recreo Caracas, Distrito Federal, Venezuela Telephone: (58-212) 708 76 33 Dirección de Planificación y Economía Minera Av. Lecuna, Parque Central Torre Oeste, Piso 6 Caracas, Venezuela Telephone: (58-212) 507 25 34 Fax: (58-212) 575 52 39 Dirección de Planificación y Economía de Hidrocarburos Edificio Petróleos de Venezuela, Torre Oeste, Piso 11 Av. Libertador con Av. Empalme Urb. La Campiña, Parroquia El Recreo Caracas, Distrito Federal, Venezuela Telephone: (58-212) 708 70 52 Instituto Nacional de Geología y Minería Av. Lecuna, Parque Central Torre Oeste, Piso 8 Caracas, Venezuela Telephone: (58-212) 507 52 46 Fax: (58-212) 576 32 17 Carbones del Guasare S.A. Presidencia Av. 5 de Julio, esquina Av. 11, Edif. Exploración y Producción, 1er. piso Maracaibo, Estado Zulia, Venezuela Telephone: (58-261) 796 16 00 / 797 60 92 Fax: (58-261) 796 17 90

Carbones de la Guajira, S.A. Av. 98, entre calles 77 y 78 Sector 5 de Julio Edif. Banco Industrial Piso 10 Maracaibo, Estado Zulia, Venezuela Zona Postal 4001 Telephone: (58-261) 796 30 00 Fax: (58-261) 796 30 01 Corporación Venezolana de Guayana (C.V.G.) Av. La Estancia Edificio General, Piso 2 Chuao, Caracas, Venezuela Telephone: (58-212) 991 30 80 Fax: (58-212) 993 43 06 C.V.G. Ferrominera Orinoco C.A. Av. La Estancia Torre Las Mercedes, Piso 9 Chuao, Caracas, Venezuela Telephone: (58-212) 991 10 53 Fax: (58-212) 991 19 77 C.V.G. Bauxilum, C.A. Av. Fuerzas Armadas-Zona Industrial Matanzas La Estancia Puerto Ordaz, Estado Bolivar Telephone: (58-286) 950 62 71 Fax: (58-286) 950 65 52 C.V.G. Aluminios del Caroní, S.A. Av. Fuerzas Armadas-Zona Industrial Matanzas La Estancia Puerto Ordaz, Estado Bolivar Telephone: (58-286) 970 54 60/970 54 66 C.V.G. Compañía General de Minería de Venezuela, C.A. Av. La Estancia Torre Las Mercedes, Piso 9 Chuao, Caracas, Venezuela Telephone: (58-212) 991 11 43 Fax: (58-212) 993 35 38 C.V.G. Ferrominera C.A. Vía Caracas, Edificio Administrativo I Puerto Ordaz, Estado Bolívar, Venezuela Telephone: (58-286) 930 34 84 Fax: (58-286) 930 37 83 Ministerio del Ambiente y de los Recursos Naturales Centro Simón Bolívar Caracas, Venezuela Telephone: (58-212) 408 14 94 Fax: (58-212) 481 74 16

TABLE 1 VENEZUELA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2001	2002	2003	2004	2005
METALS					
Aluminum:					
Alumina	1,833	1,901	1,882	1,900	1,920 ^e
Bauxite	4,585	5,191	5,446	5,842	5,900 °
Metal, primary, unalloyed metric tons	570,580	605,290	601,290	623,540	615,070
Gold, mine output, Au content kilograms	9,076	9,465	8,190	9,690	10,000 ^e
Iron and steel:					
Iron ore and concentrate, gross weight	16,902	16,684	17,954	19,196	20,000 ^e
Iron ore and concentrate, metal content	10,817	11,092	11,936	12,669	13,200 e
Metal, direct-reduced iron	5,903	6,824	6,645	6,800	8,900
Ferroalloys:	-,,	-,	0,010	-,	
Ferromanganese	12,715				
Ferronickel	32,300	51,700	57,300	58,000 ^{r, e}	56,300 ^e
Silicomanganese	56,640	36,794	30,632	30,000 °	30,000 °
Ferrosilicon ²	46,236	99,576	90,543	92,000 ^{г, г}	92,000
Total	147,891	188,070	178,475	180,000	178,000
Steel, crude	3,814	4,164	3,930	4,575	4,907
Semimanufactures, hot-rolled	2,797	3,000	2,900	3,400	3,500
Lead, secondary, refined ^e metric tons	30,000	30,000	30,000	30,000	30,000
Nickel:					
Mine output, Ni content do.	13,600	18,600 ^r	20,700	20,468	20,000 ^e
Ferronickel, Ni content do.	9,700	15,500 ^r	17,200	17,400 ^r	16,900
INDUSTRIAL MINERALS					
Amphibolite	14 ^r	19 ^r	4 ^r	^r	
Cement, hydraulic ^e	8,700	7,000	7,700	9,000	10,000
Clays, common	4,664	3,672	2,275	3,060	235
Diamond:					
Gem carats	14,321	45,707	11,080	40,000 ^{r, e}	46,000 ^e
Industrial do.	27,826 ^r	61,060	23,710	60,000 ^{r, e}	69,000 ^e
Total do.	42,147	106,767	34,790	100,000 ^e	115,000 ^e
Feldspar	142	147	149	176	202
Gypsum	5		5 ^r	4 ^r	6
Lime ^e	400	400	400	400	400
Nitrogen, N content of ammonia	808	884 ^r	731 ^r	1,012	1,110 °
Phosphate rock:	000	001	101	1,012	1,110
Gross weight	399	390 ^r	260	300	392
Content of P ₂ O ₅	114	111	75	85	110
Pyrophyllite ^e	32	32	32	32	32
Salt, evaporated ^e metric tons	500,000 ^r	500,000 ^r	500,000 ^r	500,000 ^r	500,000
Serpentinite, crushed ^e	550	550	550	550	550
Stone, sand and gravel:					
Stone:					
Dolomite	67 ^r	103 ^r	54 ^r	^r	
Granite	796	750 ^e	750 ^e	750 ^e	750 ^e
Limestone ³	18,158	13,532 ^r	2,516 ^r	11,444 ^r	18,781
Sand and gravel	8,601	4,104 ^r	2,704 ^r	2,878	605
Silica sand ³	627	878 ^r	625 ^r	943 ^r	207
Sulfur, petroleum byproduct	340 ^r	570 ^r	560 ^{r, e}	800 ^e	800 °
MINERAL FUELS AND RELATED MATERIALS			2.00		
Carbon black ^e	60	60	60	60	60
Coal, bituminous	7,685	8,097	7,034	8,107	8,200 °
Gas, natural:	7,005	0,077	7,004	0,107	0,200
	62,941 ^r	61,982	61,027 ^r	67.000 ^e	67,000 ^e
Gross million cubic meters Marketed do.	35,347 ^r	33,124	30,875 ^r	34,000 °	34,000 °
	55,547	55,124	50,075	54,000	54,000
Natural gas liquids:	11 204 ^r	11,847 ^r	9,232 ^e	10,100 ^e	10,100 ^e
Natural gasoline thousand 42-gallon barrels	11,284 ^r	· ·	· · ·	· · ·	· · ·
Liquid petroleum gas do.	53,696 r	53,411 r	43,915 °	48,300 °	48,300 °
Total do.	64,980 ^r	65,258	53,147 ^e	58,400 ^e	58,400 ^e

See footnotes at end of table.

TABLE 1--Continued VENEZUELA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
MINERAL FUELS AND RELAT	ED MATERIALSContinued					
Petroleum:						
Crude ⁴	thousand 42-gallon barrels	1,219,746 ^r	1,092,806 ^r	1,025,508 ^r	1,100,000 ^e	1,110,000 ^e
Refinery products:						
Liquefied petroleum gas	do.	4,931	4,395 ^r	5,355 ^r	5,500 ^e	5,500 ^e
Gasoline, motor	do.	74,128	64,386 ^r	52,374 ^r	75,000 ^e	75,000 ^e
Naphtha and other gasolines	do.	63,601	52,027 ^r	40,157 ^r	60,000 ^e	60,000 ^e
Jet fuel	do.	32,233	29,784 ^r	25,955 ^r	30,000 ^e	30,000 ^e
Kerosene	do.	157	77 ^r	117 ^r	120 ^e	120 ^e
Distillate fuel oil	do.	110,642	96,725 ^r	96,108 ^r	100,000 ^e	100,000 ^e
Lubricants	do.	1,814	1,467 ^r	1,142 ^r	1,200 ^e	1,200 ^e
Residual fuel oil	do.	92,914	84,479 ^r	85,052 ^r	80,000 ^e	80,000 ^e
Asphalt	do.	11,581	10,012 ^r	5,402 ^r	5,500 ^e	5,500 ^e
Petroleum coke	do.	11,362	12,279 ^r	9,994 ^r	10,000 ^e	10,000 ^e
Parafins	do.	150	1,288 ^r	241 ^r	250 ^e	250 ^e
For internal consumption	do.	28,010	28,258 ^r	24,809 ^r	30,000 ^e	30,000 ^e
Unspecified	do.	1,447	1,124 ^r	2,124 ^r	1,000 ^e	1,000 ^e
Gains and losses	do.	-3,409	38,460 ^r	41,468 ^r	1,930 ^e	1,930 ^e
Total ⁵	do.	429,561	424,761 ^r	390,298 ^r	400,500 ^e	400,500 ^e

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

¹Table includes data available through December 31, 2005.

²Production of 75% silicon-content ferrosilicon.

³Excludes production under contract with the Government.

⁴Includes condensate and bitumen for the production of Orimulsión.

⁵Excludes byproduct sulfur, which is reported in the industrial minerals portion of this table, but includes losses.

TABLE 2 VENEZUELA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity	y	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Alumina		C.V.G. Bauxilum C.A. (Corporación Venezolana de Guayana, 99%, and Alusuisse Lonza Holding, 1%)	Ciudad Guayana, Bolivar State	2,000.
Aluminum		C.V.G. Aluminio del Caroní, S.A. (Corporación Venezolana de Guayana, 82%, and Alcoa, 7.3%)	do.	210.
Do.		C.V.G. Venezolana de Aluminio C.A. (Corporación Venezolana de Guayana, 80%, and Showa Denko K.K., Kobe Steel Ltd., Sumitomo Chemical Co. Ltd., Mitsubishi Materials Corp., Mitsubishi Aluminum Co., and Marubeni Corp., 20%)	do.	430.
Bauxite		C.V.G. Bauxilum C.A. (Corporación Venezolana de Guayana, 100%)	Los Pijiguaos, Bolivar State	6,000.
Cement		CEMEX Venezuela, S.A. C.A. (Cementos Mexicanos S.A. de C.V., 100%)	Barquisimeto, Lara State; Maracaibo, Zulia State; Pertigalete, Anzoategui State; San Cristobal, Tachira State	4,600.
Do.		LaFarge Venezuela (Lafarge Group, France, 56.2%)	La Vega, Miranda State and San Cristobal, Tachira State	1,750.
Do.		Holcim (Venezuela) S.A. (Holcim Group, 50%)	Carupano, Sucre State; San Sebastian de los Reyes, Aragua State	2,200.
Do.		C.A. Fábrica Nacional de Cementos (Lafarge Group, France, 46.13%)	Palmira and Ocumare del Tuy, Miranda State	1,330.
Do.		Cementos Catatumbo (Lafarge Group, France, 23.32%)	Montellano, Zulia State	650.
Do.		Cemento Andino	Curcas, Trujillo State	560.
Coal		Carbones del Guasare, S.A. (Carbozulia S.A., 48.37%; Peabody Energy Corp., 25.17%; Anglo Coal, 25.17%)	Paso Diablo, Zulia State, Guasare coal basin	7,100.
Do.		Carbones de la Guajira, S.A. (InterAmerican Coal Holdings NV, 64%; and Carbozulia S.A., 36%)	Mina Norte and Cachiri, Zulia State, Guasare coal basin	1,500.
Ferronickel		Loma de Níquel C.A. (Anglo American plc, 91.4%)	Loma de Niquel, Aragua and Miranda States	18.
Ferrosilicon		Ferroatlántica de Venezuela, S.A. (Ferroatlántica S.L., 80%, and Corporación Venezolana de Guayana, 20%)	Ciudad Guayana, Bolivar State	80.
Gold	kilograms	Revemin (Crystallex de Venezuela C.A., 51%, and Corporación Venezolana de Guayana, 49%)	Remevin mill, El Callao, Bolivar State	1,500 mill.
Do.	do.	El Callao Mining Corp. (Crystallex de Venezuela C.A., 80%)	La Victoria (Lo Increible), El Callao, Bolivar State	1,700.
Do.	do.	Crystallex de Venezuela C.A. (Crystallex International Corp., 100%)	Tomi Mine, El Callao, Bolivar State	1,100.
Do.	do.	Minera Hecla Venezolana C.A. (Hecla Mining Inc.)	La Camorra, El Callao, Bolivar State	4,000.
Do.	do.	C.V.G. Compañía General de Minería C.A. (C.V.G. Ferrominera Orinoco C.A., 66.77%, and Corporación Venezolana de Guayana, 33.23%)	Colombia and Unión Mines and Caratal and El Peru plants, El Callao, Bolivar State	4,600 plant
Do.	do.	Promotora Minera de Venezuela (Gold Fields Limited, 70%, and Ferrominera Orinoco C.A., 30%)	Choco 10, El Callao, Bolivar State	4,500.
Iron:				
Direct-reduced		Siderúrgica del Orinoco C.A. (Cosorcio Siderúrgico Amazonia Ltd., 70%, and Corporación Venezolana de Guayana, 30%)	Ciudad Guayana, Bolivar State	4,600.
Hot-briquetted		Complejo Siderúrgico de Guayana C.A. (Kobe Steel, 36.7%; C.V.G. Ferrominera, 17.4%; Tubos de Acero de México, S.A., 6.9%; Mitsui and Co. Ltd., Nissho Iwai Corp., Tomen Corp. and Shinsho Corp., 30.3%; International Finance Corp., 8.7%)	do.	1,000.
Do.		Orinoco Iron (International Briquettes Holding, 100%)	Puerto Ordaz, Bolivar State	2,200.
Do.		Venezolana de Prereducidos de Caroní (International Briquettes Holding, 100%)	do.	815.
Iron ore		C.V.G. Ferrominera Orinoco C.A. (Corporación Venezolana de Guayana, 100%)	Cerro San Isidro, Los Barrancos, and Las Pailas, Bolivar State	25,000.
Iron ore pellets		do.	Ciudad Guayana, Bolivar State	3,600.
Do.		Siderúrgica del Orinoco C.A. (Cosorcio Siderúrgico Amazonia Ltd., 70%, and Corporación Venezolana de Guayana, 30%)	do.	7,000.
Lime		C.V.G. Compañía Nacional de Cal (Corporación Venezolana de Guayana, 100%)	Plant at Cerro Penas Blancas, Anzoategui State	500.

TABLE 2--Continued VENEZUELA: 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	
Natural gas million cubic meters	Petróleos de Venezuela, S.A. (Government, 100%)	Processing plants in Anzoategui, Monagas, and Zulia States	25,000.	
Nickel	Loma de Níquel C.A. (Anglo American plc, 91.4%)	Loma de Niquel, Aragua and Miranda States	22 mine.	
Nitrogen content of ammonia	Fertilizantes Nitrogenados de Oriente S.A. (Pequiven, 35%; Koch Industries, 35%; Snamprogetti International S.A., 20%; Empresas Polar, 10%)	Jose, Anzoategui State	1,070.	
Do.	Pequiven (Petróleos de Venezuela, S.A., 100%)	Petrochemical complexes in Zulia and Carabobo States	670.	
Petroleum:				
Crude million 42-gallon barrels	Petróleos de Venezuela, S.A. (Government, 100%)	Fields in Anzoategui, Apure, Falcon, Guarico, Monagas, and Zulia States	1,393.	
Crude, synthetic ¹ do.	Petrozuata (Conoco Inc., 50.1%, and Petróleos de Venezuela, S.A., 49.9%)	Jose Industrial Complex, Anzoategui State	40.	
Do. do.	Cerro Negro (Exxon Mobil Corp., 41.665%; Petróleos de Venezuela, S.A., 41.665%; Veba Oil & Gas, 16.67%)	do.	40.	
Do. do.	SINCOR (Total S.A., 47%; Petróleos de Venezuela, S.A., 38%, and Statoil ASA., 15%)	do.	67.	
Refinery products do.	Petróleos de Venezuela, S.A. (Government, 100%)	Refineries in Amuay and Cardon, Falcon State; Puerto La Cruz and San Roque, Anzoategui State; El Palito, Carabobo State; Bajo Grande, Zulia State	475.	
Steel	Sidor C.A. (Amazonia Consortium, 70%; Corporación Venezolana de Guayana, 20.4%; employees, 9.6%)	Ciudad Guayana, Bolivar State	4,000.	
Do.	Siderúrgica del Turbio C.A. (Siderúrgica Venezolana Sivensa S.A., 100%)	Antimano, Miranda State; Barquisimento, Lara State; Casima, Bolivar State	840.	
Sulfur	Petróleos de Venezuela, S.A. (Government, 100%)	Refineries in Amuay and Cardon, Falcon State; El Palito, Carabobo State; San Roque, Anzoatequi State	422.	
Do.	Petrozuata (Conoco Inc., 50.1%, and Petróleos de Venezuela, S.A., 49.9%)	Jose Industrial Complex, Anzoategui State	53.	

¹Extra-heavy crude processing, assumed 330 days per year of operation.