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THE MINERAL INDUSTRIES OF PARAGUAY AND URUGUAY

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PARAGUAY

Paraguay, a landlocked country, is located in central South America to the northeast of Argentina, southeast of Bolivia, and southwest of Brazil. The three main rivers of Paraguay are the Paraguay River, which runs from north to south across central Paraguay, the Parana River, which runs along the southeastern side of the country and is shared with Argentina and Brazil, and the Pilcomayo River, which is located in the southwest and is shared with Argentina (Rand McNally, 1995). The Parana River holds three hydroelectric dams—the Central Acaray (operated by Paraguay's state-owned utility Administracion Nacional de Electricidad), the Itaipu Binacional (operated in cooperation with Brazil), and the Yacyreta Binacional (operated in cooperation with Argentina). Paraguay has a total area of 406,750 square kilometers (km²) and had an estimated population of 6.2 million in 2005. Paraguay was a Spanish possession until 1811, when independence was granted (U.S. Central Intelligence Agency, 2005§[1]; U.S. Energy Information Administration, 2005§; World Bank, The, 2005§).

Paraguay's main mineral industries in 2005 were cement, iron and steel, and petroleum refinery products. The gross domestic product (GDP) based on purchasing power parity was estimated to be $28.3 billion, which was an increase of about 5.6% compared with that of 2004. The estimated GDP per capita based on purchasing power parity was $4,888 (International Monetary Fund, 2006§). The industrial sectors that made the largest contributions to Paraguay's 2005 GDP were commerce (18.7%), agriculture (17.2%), and manufacturing (14.5%). The mining sector contributed the least to the country's economy with 0.1% (Banco Central del Paraguay, 2005).

Paraguay's economy was highly dependent on its neighboring countries of Argentina, Bolivia, Brazil, and Uruguay. Three of these countries—Argentina, Brazil, and Uruguay—were fellow members of the Southern Cone Common Market [Mercado Común del Sur (MERCOSUR)]. Paraguay's important industries included cement, hydroelectric power, steel, sugar, textiles, and wood products. Paraguay had no known natural gas or oil reserves but was a major exporter and producer of hydroelectric power. To meet its crude oil and petroleum products demand, Paraguay relied completely on imports of approximately 25,400 barrels per day (bbl/d) based on 2005 estimates (U.S. Energy Information Administration, 2005§; 2006§).

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

Commodity Review

Metals

Iron and Steel.—Based on the world crude steel production report of the International Iron and Steel Institute, Paraguay produced 103,000 metric tons (t) of crude steel in 2005, which was a 5.5% decrease compared with production in 2004 (table 1). Production of pig iron, however, totaled 126,000 t, which was a 5.9% increase compared with production in 2004 (table 1) (International Iron and Steel Institute, 2004a§, b§; 2005a§, b§). During the year, domestic sales of steel products in Paraguay totaled 71,343 t, which was an 8.7% decrease compared with the 78,133 t sold in 2004 (Ministerio de Hacienda, 2005; Ministerio de Industria y Comercio, 2006b§).

Industrial Minerals

Cement.—In June 2005, three cement enterprises [Camargo Correa Cimentos S.A. and Votorantim Cimentos (of Brazil) and Concret-Mix S.A (of Paraguay)] expressed their interest in investing $17 million to build a cement mill in the city of Mariano Roque Alonso in Paraguay. The mill would have a production capacity of 200,000 t; the companies planned to sell the cement output domestically and to export it. The facility was expected to meet about 20% of the country's demand for cement when the plant is fully operational (Business News America, 2005§; Portal Paraguayo de Noticias, 2005§).

In 2005, the Industria Nacional del Cemento (INC), a state-owned company, was the only cement producer in Paraguay. During 2005, INC's cement production was 549,686 t, which was an increase of 17% compared with that of 2004 (table 1). In 2005, the National Customs Department of Paraguay registered a total of 98,646 t of cement imported to complement the domestic production and satisfy high demand. Approximately 84.8% of Paraguay's cement was produced locally, and the remaining 15.2% was imported (Ministerio de Hacienda, 2005; Ministerio de Industria y Comercio, 2006a§).

Mineral Fuels

Natural Gas.—During the last quarter of 2004, Chaco Resources Plc acquired 100% of the shares of two Paraguayan companies, Amerisur S.A. and Bohemia S.A. Chaco was the successor company of Gold Mines of Sardinia Plc, a gold company that in early 2004 had changed its name and its orientation to exploration and development of hydrocarbons in South America.

In 2005, Chaco applied for the right to explore the Canindeyu, the Curupayty, and the San Pedro Blocks (Chaco Resources Plc, 2005a§; b§). In August 2005, the Congress of Paraguay

approved two acts that granted Chaco's subsidiary Amerisur S.A. hydrocarbon exploration and production rights to the Curupayty and the San Pedro Blocks. For the Canindeyu Block, Chaco was awarded a prospecting permit for 1 year. The Curupayty Block covers almost 1.4 million hectares of the Curupayty Basin in northern Paraguay. The San Pedro concession covers more than 1 million hectares of the western Parana Basin. As a requirement under the Paraguayan legislation, the company (Chaco) has to select an exploration area of no more than 800,000 hectares per block for the Curupayty and the San Pedro concessions in order to enter into a 4-year exploration phase (Alexander's Gas & Oil Connections, 2005a§; Chaco Resources Plc, 2005a§; b§)

Chaco's plans for its Paraguay properties during 2006 included the analysis and interpretation of the historical seismic data for all three locations to produce regional structural maps of key seismic horizons. Data from existing wells would also be reviewed and correlated for seismic interpretation. After the analysis of seismic data is completed, the company would decide if further seismic shooting was required to determine possible drilling targets. Chaco was also exploring the possibilities of joint-venture opportunities for future exploration drilling (Chaco Resources Plc, 2005a§).

CDS Energy S.A., which was the Paraguayan subsidiary of CDS Oil & Gas Group Plc (a United Kingdom-based oil and gas exploration company), held contractual rights to three blocks of property that cover an area of 2.9 million hectares in the Chaco region of Paraguay. The Boqueron Block covers a total area of 2,389,850 hectares, of which CDS Energy had prospecting and exploration rights for an area of 120,000 hectares. CDS energy held 100% interest in the Boqueron Block. CDS Energy also held interest in the Gabino Mendoza Block, which covers an area of 40,000 hectares; the company had exploitation rights with a 96.5% gross revenue interest (the owner of the remaining 3.5% was not specified) and a 100% working interest. CDS Energy's PG&E Block covered an area of 491,077 hectares; CDS Energy held a 99.4% gross revenue interest (no information was available regarding who managed the remaining 0.6%) and a 100% working interest in the prospecting area (CDS Oil & Gas Group Plc, 2006b).

In November 2005, CDS Energy drilled its first well on the Gabino Mendoza Block in an area of Devonian sand sequence at a depth of between 723 and 1,635 meters (m). Results revealed the presence of liquid hydrocarbons. Further analysis of the drill cuttings, sidewall cores, and well logs revealed that a deeper Devonian section (between 1,800 and 3,240 m) was prospective for gas (CDS Oil & Gas Group Plc, 2006a, b).

CDS Energy planned to finance its property obligations by securing additional financing or through joint-venture participation. During 2006, CDS Energy planned to continue to explore for deep Devonian gas in the Gabino Mendoza Block. Also in 2006, CDS Energy planned to continue its exploration of shallow oil in the Emilia well, which is located within the Boqueron Block. Although no hydrocarbon reserves had been proven in the Emilia prospect, CDS Energy considered this to be its most potentially productive property. Independent studies have estimated a recoverable resource of 40 million barrels of oil at the Emilia prospect (CDS Oil & Gas Group Plc, 2006a, b).

Petroleum Products.—Petróleos Paraguayos (Petropar) (the state-owned oil company) was responsible for the management of all crude oil and petroleum products sold in the country and imported. Petropar also operated Paraguay's only refinery, Villa Elisa, which had a production capacity of 7,500 bbl/d. In September 2005, Paraguay and Venezuela discussed the possibility of building an oil refinery in Paraguay that could process Venezuela's heavy crude. This effort could help meet Paraguay's demand for crude oil as well as supply the markets of neighboring countries. Venezuela's exports to Paraguay could reach about 18,600 barrels of crude oil per day in the form of gasoil (Alexander's Gas & Oil Connections, 2005b§; Latin Petroleum, 2005b§).

In late 2005, Paraguay and Venezuela signed an oil supply agreement. Under the agreement, Paraguay will be able to postpone the payment of 25% of the oil imported from Venezuela for up to 15 years at a rate of 2% interest. The remaining 75% must be paid within 90 days after delivery. The agreed amount of supply consisted of about 560,000 barrels per month of oil, which is equivalent to about 73% of the country's monthly demand; the remaining 27% would be imported from Paraguay's regular suppliers (Alexander's Gas & Oil Connections, 2005b§; Latin Petroleum, 2005a§).

Outlook

Paraguay's economy was expected to continue to grow in 2006 at a rate of 5.6% based on purchasing power parity (International Monetary Fund, 2006§). The increase in the GDP will be highly dependent on the continued regional economic stability of neighboring countries, such as Argentina and Brazil.

The cement industry was expected to grow during 2006 if the planned construction of a new cement mill by the joint venture of Camargo, Concret-Mix, and Votorantim takes place; the annual production of the mill is projected to meet about 20% of Paraguay's cement demand. The Paraguayan mineral fuels industry is set to continue its exploration activities during 2006 owing to the continuation of CDS Energy's and Chaco's exploration projects, which were started in 2005.

References Cited

Banco Central del Paraguay, 2005, Informe económico preliminar del 2005: Asunción, Paraguay, Banco Central del Paraguay, p. 36.

CDS Oil & Gas Group Plc, 2006a, CDS Oil & Gas Group Plc report and financial statements for year ended 31 December 2005: London, United Kingdom, CDS Oil & Gas Group Plc annual report, July 30, p. 2-4.

CDS Oil & Gas Group Plc, 2006b, CDS reports on results from first well in Paraguay: London, United Kingdom, CDS Oil & Gas Group Plc press release, February 28, 2 p.

Ministerio de Hacienda, 2005, Nivel de actividad económica, Diciembre de 2006: Asuncion, Paraguay, Ministerio de Hacienda, p. 6.

Rand McNally, 1995, Goode's world atlas 19th edition—Paraguay: Rand McNally, p. 132.

Internet References Cited

Alexander's Gas & Oil Connections, 2005a (December 8), Chaco Resources wins two E&P concessions in Paraguay, accessed August 28, 2006, at URL http://www.gasandoil.com/goc/company/cnl53562.htm.

Alexander's Gas & Oil Connections, 2005b (December 12), Venezuela and Paraguay agree to oil deal, accessed December 20, 2006, at URL http://gasandoil.com/goc/news/ntl60225.htm.
Business News America, 2005 (June 6), Concret-Mix, Camargo to build US$17mn cement mill—Paraguay, accessed June 7, 2006, at URL http://www.bnamericas.com/story.jsp?sector=5&noticia=320114&idioma=I.
Chaco Resources Plc, 2005a (December 23), Chaco Resources Plc—Interim results, accessed August 27, 2006, at URL http://miranda.hemscott.com/servlet/HsPublic?context=ir.access&ir_option=RNS_NEWS&item=3131890 1681380&ir_client_id=4437.
Chaco Resources Plc, 2005b (April 26), Chaco subsidiary: Amerisur S.A.—Concession contracts executed in Paraguay, accessed August 27, 2006, at URL http://miranda.hemscott.com/servlet/HsPublic?context=ir.access&ir_option=RNS_NEWS&item=27193585836894&ir_client_id=4437.
International Iron and Steel Institute, 2004a, BFI statistic archive 2004, accessed October 27, 2006, at URL http://www.worldsteel.org/?action=stats&type=iron&period=year&year=2004.
International Iron and Steel Institute, 2004b, Steel statistic archive 2004, accessed October 27, 2006, at URL http://www.worldsteel.org/?action=stats&type=steel&period=year&year=2004.
International Iron and Steel Institute, 2005a, BFI statistic archive 2005, accessed October 27, 2006, at URL http://www.worldsteel.org/?action=stats&type=iron&period=year&year=2005.
International Iron and Steel Institute, 2005b, Steel statistic archive 2005, accessed October 27, 2006, at URL http://www.worldsteel.org/?action=stats&type=steel&period=year&year=2005.
International Monetary Fund, 2006 (September), Paraguay, World Economic Outlook Database, accessed April 24, 2007, via URL http://www.imf.org/external/pubs/ft/weo/2006/02/data/weorept.aspx.
Latin Petroleum, 2005a (December 11), Chavez signs oil supply deal with Paraguay, accessed December 28, 2005, at URL http://www.latinpetroleum.com/printer_4975.shtml.
Latin Petroleum, 2005b (September 26), Paraguay, Venezuela look to build refinery, accessed December 28, 2005, at URL http://www.latinpetroleum.com/printer_4711.shtml.
Ministerio de Industria y Comercio, 2006a, Ventas de cemento tipo Pórtland por la Industria Nacional del Cemento, accessed December 18, 2006, at URL http://www.mic.gov.py/index.php?option=com_content&task=view&id=117&Itemid=209.
Ministerio de Industria y Comercio, 2006b, Ventas totales de los principales productos de Aceros del Paraguay en toneladas, accessed December 18, 2006, at URL http://www.mic.gov.py/index.php?option=com_content&task=view&id=116&Itemid=218.
Portal Paraguayo de Noticias, 2005 (June 4), Montarán cementera en el país con capital brasileño, accessed December 18, 2006, at URL http://www.ppn.com.py/html/noticias/noticia-print.asp?id=7133.
U.S. Central Intelligence Agency, 2005, Paraguay, World Factbook 2005, accessed November 10, 2005, at URL https://www.cia.gov/cia/publications/factbook/geos/pa.html.
U.S. Energy Information Administration, 2005 (November), Paraguay, Country Analysis Brief, accessed December 29, 2005, at URL http://www.eia.doe.gov/emeu/cabs/Paraguay/Full.html.
U.S. Energy Information Administration, 2006 (November), Paraguay, Country Analysis Brief, accessed November 6, 2006, at URL http://www.eia.doe.gov/emeu/cabs/Paraguay_Uruguay/pdf.pdf.
World Bank, The, 2005, Paraguay data profile, accessed July 27, 2006, at URL http://devdata.worldbank.org/external/CPProfile.asp?PTYPE=CP&CCODE=PRY.

URUGUAY

Uruguay, which is located on the central southeastern coast of South America, is bordered by Argentina to the west, Brazil to the northeast, the Atlantic Ocean to the southeast, Rio de la Plata's delta to the southwest, and Rio Uruguay (which it shares with neighboring country Argentina) to the west (Rand McNally, 1995). Uruguay has a total area of 176,220 km² and had an estimated population of 3.5 million in 2005 (U.S. Central Intelligence Agency, 2005§; World Bank, The, 2005§). The main industries in Uruguay included chemicals, electrical machinery, food processing, petroleum refinery products, textiles, and transportation equipment (U.S. Central Intelligence Agency, 2005§; 2006§). Uruguay's mineral industries included clays, semiprecious gemstones, gold, iron and steel, sand and gravel, and stone.

In 2005, Uruguay (a founding member of MERCOSUR) had an estimated GDP based on purchasing power parity of $34.3 billion, which was an increase of 8.7% compared with that of 2004. The estimated GDP per capita based on purchasing power parity was $10,720 (International Monetary Fund, 2006§).

Uruguay's economy was highly dependent on those of its MERCOSUR partners. Uruguay had no proven natural gas or oil reserves but it does have substantial hydroelectric capacity. To meet its oil consumption demand, Uruguay relied completely on imports (mainly from Venezuela) of approximately 35,700 bbl/d based on 2005 estimates (U.S. Energy Information Administration, 2006§).

Commodity Review

Metals

Gold.—In 2005, gold production in Uruguay was reported to be 3,151 kilograms (kg), which was an increase of about 35% compared with that of 2004 (table 1). The country's only operating gold mine in 2005 was the Minas de Corrales gold project, which is located approximately 450 km north of the capital city of Montevideo in the Department of Rivera in northern Uruguay. The project was 100% owned by Uruguay Mineral Exploration Inc. (UME) of Canada and was the company's only producing asset. The Minas de Corrales gold project had two main deposits— the San Gregorio and the Arenal. The San Gregorio deposit had produced more than 15,500 kg since its discovery in the 1880s. The Arenal deposit, which was discovered in 2004 and put into commercial production in October 2005, had an inferred gold resource of more than 23,000 kg. During fiscal year 2005-06, UME reported that the Arenal gold deposit had supplied about 65% of the company's plant feed. Exploration within the Minas de Corrales gold project had resulted in the discovery of other deposits, such as the Argentinita and the Zapucay deposits, which had been mined previously, and the Castrillon and the Sobre Saliente deposits, which had not been mined. The Argentinita and the Zapucay deposits were located within the Zapucay shear zone, which is characterized by a series of small and shallow quartz veins. The Castrillon and the Sobre Saliente deposits had approximate resources of 600 kg and 6,000 kg of gold, respectively (Uruguay Mineral Exploration Inc., 2006a, p. 13; 2006b, p. 6, 13, 17; 2006c, p. 6).

Other gold projects owned by UME were the Casupa, the Chamizo, the Mirta, and the Presidente Terra. The Casupa project is located 100 km north of Montevideo and the Chamizo project is located 120 km east-northeast of the capital city; both projects were being explored during 2005. Also during 2005, the Mirta project, which is located near Colonia in southwestern Uruguay, was being assessed for future drilling targets. The Presidente Terra gold project, which is located approximately 240 km northeast of Montevideo, was put on hold during

2005 (Uruguay Mineral Exploration Inc., 2006a, p. 13; 2006b, p. 9-11, 17; 2006c, p. 6).

Iron and Steel.—The Dirección Nacional de Minería y Geología (DINAMIGE) [National Directorate of Mining and Geology] reported production of 12,436 t of iron ore in 2005, which was an increase of about 33% compared with that of 2004 (table 1). The 2005 production of crude steel reported by the International Iron and Steel Institute was 64,000 t, which was an increase of about 10% compared with that of 2004 (table 1).

Other Metals.—In 2005, UME owned projects that focused on a variety of base metals at the Carpinteria, the Dom Feliciano Mobile Belt, the Lascano, and the Mal Abrigo-Cerro Negro properties. The Carpinteria project, which is located about 500 km north of Montevideo, was in the exploration stage during 2005 and consisted of a sequence of ultramafic flow rocks with high nickel content. During 2005, a geophysical survey and mapping were performed in the area with the objective of targeting nickel sulfide locations. The Dom Feliciano Mobile Belt was an iron-copper-gold deposit that was discovered 300 km northeast of the capital city; exploration at this site was suspended in 2005 owing to disappointing results. The Lascano project, which is located about 250 km northeast of Montevideo, was explored for possible nickel. During 2005, UME announced the completion of a detailed airborne gravity and magnetometry survey in the Lascano project area; results were in the interpretation stage. The Mal Abrigo-Cerro Negro project, which is situated approximately 140 km northwest of Montevideo, had been explored for copper, nickel and platinum-group metals. Exploration in the area had revealed disseminated copper and nickel sulfides (Uruguay Mineral Exploration Inc., 2006a, p. 10-11; 2006b, p. 7-8, 17).

Industrial Minerals

Cement.—In 2005, Venezuela initiated plans to invest $18 million in a cement project in Uruguay's state-owned company Administración Nacional de Combustibles, Alcohol y Portland (ANCAP). The investment would be used to modernize ANCAP's cement plant, which would export cement to Venezuela under preferential conditions (Alexander's Gas & Oil Connections, 2005§).

Diamond.—During 2005, exploration for diamond in Uruguay was performed by UME at UME's Rivera Diamonds-Cinco Rios project, which is located in northern Uruguay in the area of the Minas de Corrales gold project. Samples previously recovered from the Rio de la Plata Craton included macro and micro diamonds, kimberlitic garnets, and chrome spinel. UME planned to launch a close-space airborne gravity gradiometer to perform a magnetic survey of the area in May 2006 (Uruguay Mineral Exploration Inc., 2006a, p. 11; 2006b, p. 8, 17).

Mineral Fuels

Natural Gas.—Uruguay has no proven natural gas reserves; therefore, the natural gas supply was imported through two existing pipelines between Argentina and Uruguay. The first pipeline, Gasoducto del Litoral, which runs 12 miles (19 km) from Colon, Argentina, to Paysandu in western Uruguay, had a capacity of 4.9 million cubic feet per day (140,000 cubic meters per day) and was managed by ANCAP. The second pipeline, Gasoducto Cruz del Sur, which extends 130 miles (210 km) from Argentina's natural gas grid to Montevideo, had a capacity of 176 million cubic feet per day (about 5 million cubic meters per day) and was owned by a consortium of international companies that was led by British Gas Plc of the United Kingdom (U.S. Energy Information Administration, 2005§).

Petroleum.—Uruguay has no proven reserves of oil. ANCAP operated Uruguay's single oil refinery, La Teja, which had a production capacity of 50,000 bbl/d. In 2005, Venezuela agreed to supply Uruguay with up to 43,600 bbl/d of crude oil under preferential financing terms (a down payment of 75% and the remaining 25% to be paid in goods and services). In August 2005, Venezuela shipped the first crude oil vessel carrying 1 million barrels of oil to Uruguay as part of an agreement reached between the two countries that included oil supply to Uruguay for up to 25 years. The crude oil came from Venezuela's state-owned Petroleos de Venezuela S.A. (PDVSA) property, Faja del Orinoco. In December 2005, Uruguay and Venezuela signed a contract for the study phase of a proposed multimillion-dollar expansion of La Teja oil refinery. The agreement would allow Venezuela to process its heavy crude oil in the Uruguayan refinery. The agreement proposed expansion of the total refining capacity to 100,000 bbl/d; the expansion was targeted to be completed by 2010 or 2011 (Alexander's Gas & Oil Connections, 2005§, 2006§; Latin Petroleum, 2005§).

In conjunction with the crude oil agreement, Venezuela also planned to invest in other projects in Uruguay's ANCAP, such as an investment of $12 million toward the improvement of ANCAP's sugar-cane alcohol plant. This plant improvement would benefit Venezuela because the plant's products would be exported to Venezuela under preferential terms (Alexander's Gas & Oil Connections, 2005§).

Outlook

Uruguay's economy was expected to continue to grow in 2006 at a rate of about 6% (International Monetary Fund, 2006§). The increase in the GDP will be highly dependent on the continued regional economic stability of the members of MERCOSUR.

In 2006, UME plans to maintain its Minas de Corrales gold production at 3,000 kilograms per year. As for the Arenal, the Argentinita, and the San Gregorio gold deposits, UME plans to define additional gold reserves for those properties. For the Lascano nickel project, UME expects to define drilling targets during 2006 based on the results obtained from the gravity and magnetic survey completed in 2005. During fiscal year 2006-07, UME also plans to start joint venture partnership with interested parties to develop UME's diamond and other metals prospects (Uruguay Mineral Exploration Inc., 2006a, p. 6, 8, 11).

References Cited

Rand McNally, 1995, Goode's world atlas 19th edition—Paraguay: Rand McNally, p. 132.

Uruguay Mineral Exploration Inc., 2006a, 2006 Annual report—Ended May 31, 2006: Montevideo, Uruguay, Uruguay Mineral Exploration Inc., August 24, 21 p.

Uruguay Mineral Exploration Inc., 2006b, Management Discussion & Analysis for the period ended February 28, 2006: Montevideo, Uruguay, Uruguay Mineral Exploration Inc., April 10, 17 p.
Uruguay Mineral Exploration Inc., 2006c, Uruguay Mineral Exploration Inc. consolidated interim financial statements for the nine months period ended February 28, 2006: Montevideo, Uruguay, Uruguay Mineral Exploration Inc., April 10, 13 p.

Internet References Cited

Alexander's Gas & Oil Connections, 2005 (August 11), Venezuela will guarantee Uruguay's oil supply for the next 25 years, accessed August 28, 2006, at URL http://www.gasandoil.com/goc/news/ntl53555.htm.
Alexander's Gas & Oil Connections, 2006 (January 9), Venezuela reaches deal with Argentina and Uruguay, accessed December 20, 2006, at URL http://www.gasandoil.com/goc/news/ntl60431.htm.
International Monetary Fund, 2006 (September), Uruguay, World Economic Outlook Database, accessed April 24, 2007, via URL http://www.imf.org/external/pubs/ft/weo/2006/02/data/weorept.aspx.
Latin Petroleum, 2005, Venezuela approves study on doubling output at Uruguayan oil refinery, accessed December 28, 2005, at URL http://www.latinpetroleum.com/printer_4981.shtml.
U.S. Central Intelligence Agency, 2005, Uruguay, World Factbook 2005, accessed November 10, 2005, at URL https://www.cia.gov/cia/publications/factbook/print/uy.html.
U.S. Central Intelligence Agency, 2006, Uruguay, World Factobook 2006, accessed December 20, 2006, at URL https://www.cia.gov/cia/publications/factbook/print/uy.html.
U.S. Energy Information Administration, 2005 (November), Uruguay, Country Analysis Brief, accessed December 29, 2005, at URL http://www.eia.doe.gov/emeu/cabs/Uruguay/pdf.pdf.
U.S. Energy Information Administration, 2006 (November), Paraguay/Uruguay, Country Analysis Brief, accessed November 6, 2006, at URL http://www.eia.doe.gov/emeu/cabs/Paraguay_Uruguay/pdf.pdf.
World Bank, The, 2005, Uruguay data profile, accessed July 27, 2006, at URL http://devdata.worldbank.org/external/CPProfile.asp?SelectedCountry=URY&CCODE=URY&CNAME=Uruguay&PTYPE=CP.

TABLE 1
PARAGUAY AND URUGUAY: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Country and commodity		2001	2002	2003	2004	2005
PARAGUAY[2]						
Cement, hydraulic[e]	thousand metric tons	510 [r]	450 [r]	520 [r]	470 [r]	550
Clays:[e]						
Kaolin		66,500 [3]	66,700	66,600	66,600	66,000
Other, unspecified		233,500 [3]	233,000	230,000	230,000	230,000
Gypsum[e]		4,300 [3]	4,300	4,500 [3]	4,500	4,500
Iron and steel:						
Pig iron		71,765	87,600	98,000 [4]	119,000 [r, 4]	126,000 [4]
Semimanufactures		56,729	51,700	51,600 [e]	51,600 [e]	51,500 [e]
Steel, crude		67,034	80,400	93,000 [r, 4]	109,000 [r, 4]	103,000 [4]
Lime[e]		100,000 [3]	100,000	90,000	90,000	90,000
Petroleum, refinery products:[e]						
Distillate fuel oil	thousand 42-gallon barrels	600	600	600	600	600
Gasoline	do.	675	670	660	660	660
Jet fuel	do.	21	20	20	20	20
Kerosene	do.	249	200	250	250	250
Liquefied petroleum gas	do.	638	630	630	630	630
Residual fuel oil	do.	263	450	460	460	460
Unspecified	do.	37	37	40	40	40
Total	do.	2,483	2,610	2,660	2,660	2,660
Pigments, mineral, natural, ocher[e]		300	300	250	250	250
Sand, including glass sand[e]		27,500	25,000	25,500	25,500	25,500
Stone:[e]						
Dimension	thousand metric tons	70	70	70	70	70
Crushed and broken:						
Limestone, for cement and lime		16,320 [3]	16,000	16,300	16,300	16,000
Marble		750	750	750	750	750
Other		2,000	2,000	2,000	2,000	2,000
Talc, soapstone, pyrophyllite[e]		200	200	200	200	200
URUGUAY						
Aluminum, secondary[e]		45	45	45	45	45
Barite[e]		12 [3]	15	15	15	15
Bentonite		125	70 [5]	230 [5]	122 [5]	195 [5]
Cement, hydraulic[e]	thousand metric tons	1,015 [3]	1,000	1,050	1,050	1,050
Clays, unspecified		24,886	26,076 [5]	35,444 [5]	47,519 [5]	64,447 [5]
Coke, gashouse[e]		5,500 [3]	5,000	5,000	5,000	5,000
Feldspar		4,722	1,550 [5]	2,450 [5]	2,450 [r, 5]	2,150 [5]
Gemstones, semiprecious:						
Agate		416	1,004 [5]	5,361 [5]	14,560 [r, 5]	16,730 [5]
Amethyst		179	140 [5]	390 [5]	435 [5]	433 [5]
Gold[6]	kilograms	2,056 [r]	2,126 [r]	1,500 [r]	2,334 [r]	3,151 [3]
Gypsum[e]	thousand metric tons	1,127 [3]	1,130	1,130	1,130	1,130
Iron and steel:						
Iron ore		9,743	7,768 [r, 5]	5,941 [5]	9,319 [5]	12,436 [5]
Metal:						
Ferroalloys, electric-furnace ferrosilicon crust[e]		200	200	200	200	200
Semimanufactures[e]		28,830 [3]	32,400	32,300	32,000	32,000
Steel, crude		30,890	34,900 [e]	41,000 [4]	58,000 [r, 4]	64,000 [4]
Lime[e]		10,000	10,000	10,000	10,000	10,000
Petroleum, refinery products:[e]						
Distillate fuel oil	thousand 42-gallon barrels	4,100	4,100	4,200	8,810 [r, 3, 7]	8,476 [3, 7]
Gasoline	do.	2,200	2,200	2,200	1,793 [r, 3, 7]	1,830 [3, 7]
Kerosene	do.	500	500	500	75 [r, 3, 7]	67 [3, 7]
Liquefied petroleum gas	do.	400	400	400	915 [r, 3, 7]	1,005 [3, 7]
Residual fuel oil	do.	3,600	3,600	3,650	3,650	3,650
Unspecified	do.	280	280	280	401 [r, 3, 7]	201 [3, 7]
Total	do.	11,100	11,100	11,200	11,200	15,000

See footnotes at end of table.

TABLE 1--Continued
PARAGUAY AND URUGUAY: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Country and commodity		2001	2002	2003	2004	2005
URUGUAY--Continued						
Sand and gravel:						
Sand, common	thousand metric tons	2,697	1,265 [5]	958 [5]	1,270 [r, 5]	1,693 [5]
Gravel		40,373	24,095 [5]	29,417 [5]	48,023 [5]	61,144 [5]
Stone:						
Flagstone		3,590	3,278 [5]	2,697 [5]	5,605 [5]	5,869 [5]
Granite:						
Dimension		4,369	3,463 [5]	3,768 [5]	4,834 [5]	5,997 [5]
Crushed and broken, alum schist	thousand metric tons	528	392 [5]	1,072 [5]	625 [5]	699 [5]
Other, rough stone		13,585	10,765	5,450	4,950	10,299 [5]
Diorite	thousand metric tons	1,092	1,100	1,019 [5]	798 [5]	226 [5]
Dolomite		5,468	4,518 [5]	12,177 [5]	9,839 [5]	11,158 [5]
Limestone[5]	thousand metric tons	1,127	754	830	1,052	1,185
Marble, in blocks and broken:[e]						
Onyx		121 [3]	120	121 [3, 5]	122 [3, 5]	120
Travertine		39	30	27 [3, 5]	-- [3, 5]	--
Other, unspecified		170	160	115 [3, 5]	120	39 [3, 5]
Marl		6,780	4,861 [5]	3,142 [5]	3,310 [5]	4,350 [5]
Quartz		146	150 [e]	150 [e]	1,130 [r, 3, 5]	104 [5]
Other, including ballast	thousand metric tons	2,523	1,580 [5]	1,035 [5]	1,453 [5]	1,811 [5]
Sulfur, elemental, byproduct[e]		3,000	3,000	3,000	3,000	3,000
Talc, soapstone, pyrophyllite		1,694	816 [5]	1,095 [5]	1,042 [5]	1,131 [5]
Tuff, tufa	thousand metric tons	1,185	341 [5]	1,281 [5]	142 [5]	244 [5]

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.
[1]Includes data available through November 2006.
[2]In addition to the commodities listed, construction materials (clays, miscellaneous rock, sand, and weathered tuffs) are presumably produced, but available information is inadequate to make reliable estimates of output.
[3]Reported figure.
[4]Source: International Iron and Steel Institute.
[5]Source: Dirección Nacional de Minería y Geología.
[6]Source: Uruguay Mineral Exploration Inc. Data are for fiscal year ending March 31 of the following year.
[7]Source: Administración Nacional de Combustible, Alcohol y Portland (ANCAP). Numbers were converted into 42-gallon barrels (bbl) from cubic meters using the U.S. Energy Information Administration conversion factors of 1 cubic meter = 6.289812 bbl.

TABLE 2
PARAGUAY AND URUGUAY: STRUCTURE OF THE MINERAL INDUSTRIES IN 2005

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
PARAGUAY				
Cement	thousand metric tons	Industria Nacional del Cemento (INC)	Planta Vallemi and Planta Villeta	675
Petroleum, refinery products	thousand 42-gallon barrels	Petróleos Paraguayos (Petropar)	Villa Elisa refinery at Villa Elisa Municipality	2,700
Steel	thousand metric tons	Consorcio Siderurgico de Paraguay (Cerro Lorito, 67%, and Cooperativa de Trabajadores de ACEPAR, 33%)	ACEPAR steel mill at Villa Hayes	150
URUGUAY				
Cement	thousand metric tons	Compañía Uruguaya de Cemento Portland S.A	Mine and clinker plant in Department of Lavalleja	500
Gold	kilograms	Uruguay Mineral Exploration Inc. (UME) (100%)	Minas de Corrales Gold in Department of Rivera	3,000
Iron ore and steel	thousand metric tons	Gerdau Laisa, S.A.	Gerdau Laisa S.A	70
Petroleum, refinery products	thousand 42-gallon barrels	Administración Nacional de Combustibles, Alcohol y Portland (ANCAP)	La Teja oil refinery near Montevideo	18,000