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# 2005 Minerals Yearbook

## AUSTRALIA

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

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# The Mineral Industry of Australia

By Staff

The Commonwealth of Australia is a country that is part of Oceania, which is located between the Indian Ocean and the South Pacific Ocean. The country's land mass is 7,617,930 square kilometers ($km^2$) and encompasses the continent of Australia and adjacent islands, including King Island and Tasmania, Lord Howe Island, and Macquarie Island. Owing to its large mineral resources, Australia was one of the world's leading mineral producing countries. The country ranked among the top 10 countries worldwide in the production of bauxite, coal, cobalt, copper, gem and near-gem diamond, gold, iron ore, lithium, manganese ore, niobium, rare earths, and uranium.

## Commodity Review

### *Metals*

**Aluminum.**—Australia was the leading bauxite and alumina producing country in the world. Bauxite came from the Gove Mine in Northern Territory, the Weipa Mine in northern Queensland, and the Huntly, the Willowdale, and the Worsley mines in Western Australia. The construction of Comalco Ltd.'s (a subsidiary of the Rio Tinto Group) 1.4-million-metric-ton-per-year (Mt/yr) mine in Queensland was completed in early 2005. Capacity expansions of Alcoa World Alumina Australia's Pinjarra alumina refinery in Western Australia and Worsley Alumina Pty. Ltd.'s Worsley alumina refinery in Western Australia were scheduled to be completed in early 2006. Australia's alumina output capacity was projected to increase to 20.5 Mt/yr in 2006. Australia's alumina producers planned to further expand their output capacities at the Gove, the Wagerup, and the Worsley refineries in the next 3 years. Aluminum expansion projects included Hydro Aluminum Australia Pty Ltd.'s Kurri Kurri Surf aluminum smelter in New South Wales and Boyne Island Smelter at Gladstone in Queensland. The total additional aluminum output capacity would be 18,000 metric tons per year (t/yr) in 2006. With limited growth in Australia's aluminum production capacity projected for the next several years, exports of alumina from Australia could increase by up to 19 million metric tons (Mt) in 2010 (Australian Bureau of Agricultural and Resource Economics, 2006b, p. 7).

**Copper.**—Australia was one of the major copper producing countries in the world. In 2005, Australia produced more than 900,000 metric tons (t) of copper in concentrates, and production was expected to increase to more than 1 Mt in 2007 and later years because of increasing production from Tritton Resources Ltd.'s copper mine and Newcrest Mining Ltd.'s copper and gold mine. Several copper mine projects—Browns Oxide Mine in the Northern Territory, Enterprise Mine in Queensland, Jaguar Mine in Western Australia, Lady Annie Mine in Queensland, and Thalanga Mine in Queensland—were expected to start up in 2007. BHP Billiton plc was considering an expansion of the Olympic Dam Mine to 500,000 t/yr, and Oxiana Co.'s Prominent Hill copper and gold project in South Australia was under bankable feasibility study. In 2005, Australia exported 1.3 Mt of copper concentrates. Owing to the country's increased output, exports of copper concentrates were expected to increase during the next several years. Australia's refined copper output was about 450,000 t/yr, and output capacity was expected to increase to about 500,000 t/yr in 2007 because of the 20,000-t/yr expansion project underway at the Townsville copper refinery and the 15,000-t/yr greenfield Lady Annie project underway at Queensland. Australia exported more than 300,000 t/yr of refined copper (Australian Bureau of Agricultural and Resource Economics, 2006a, p. 155).

**Gold.**—Australia's gold mine output ranked second in the world after the Republic of South Africa. The country's gold resources occur and are mined in all States and in the Northern Territory, and much of the gold was produced from large open pit mines. The new Ballarat East mine in Victoria and Twin Hills mine in Queensland were put into operation in 2005. A number of gold mines, including the Bendigo mine in Victoria, the Fortnum mine in Western Australia, the Gully mine and the Union Reef mine in Northern Territory, and the Warrior mine in Queensland, were scheduled to be put into operation during the next 2 years. Owing to the expansion of mine output capacity, higher gold prices in the international market, and an increase in demand for gold jewelry in China, India, and the Middle East, production and export of gold from Australia were expected to increase in the future (Australian Bureau of Agricultural and Resource Economics, 2006c).

**Iron and Steel.**—In 2005, Australia's iron ore output ranked second in the world after Brazil. Owing to limited iron and steel output capacity, Australia exported about 90% of its iron ore output to such Asian countries as China, Japan, the Republic of Korea, and Taiwan. Since 2003, negotiated benchmark iron ore prices have more than doubled. High prices and increased demand for iron ore in Asian countries, especially China, stimulated substantial investment in new iron ore projects in Australia and other iron-ore-rich countries. Many of these projects were anticipated to come onstream in 2006 and later years.

Rio Tinto plc planned to expand the Yandicoogina Mine output capacity to 52 Mt/yr by adding16 Mt/yr of capacity. Mine expansion was scheduled to be completed in late 2007. BHP Billiton expanded its Brackman resource Orebody 18 and its Area C in the Pilbara region of Western Australia. BHP Billiton also planned to increase production capacity at its Newman Mine site to 63 Mt/yr in 2010 from 45 Mt/yr in 2006. By 2010, BHP Billiton will have a total iron ore output capacity of 152 Mt/yr in the Pilbara region. The Western Australian Government approved Rio Tinto and Hancock Prospecting Pty Ltd.'s joint-venture project, Hope Downs, which will have an output capacity of 22 Mt/yr in 2008. The Hope Downs deposit had iron ore reserves of 346 Mt at a grade of 61.6% iron (Rio Tinto plc, 2006). Several small development projects, such as the Jack Hills Mine, the Koolan Island Mine, and the Middleback Range

Mine were expected to come onstream in 2007. Australia's iron ore production was expected to increase to 320 Mt in 2007.

**Lead, Silver, and Zinc.**—Australia's lead, silver, and zinc mines were predominantly based on zinc-rich ore bodies with zinc as the major component and lead and silver as byproducts. An exception was BHP Billiton's Cannington underground mine in Queensland where lead and silver were major components and zinc was a minor component.

Owing to low zinc metal prices during the early 21st century, several zinc mines were closed worldwide. Teck Cominco Corp. of Canada's Lennard Shelf mine was closed in 2003. During the same period, the expansion of zinc smelting capacity, especially in China, was faster than the increase in mine output capacity. The supply and demand gap in zinc concentrates was met by drawing from stockpiles. As a result of an increase in demand for zinc from China, prices of zinc on the international market increased substantially in 2005. Teck Cominco planned to reopen its Lennard Shelf mine in 2007. The Black Star zinc mine in Queensland was expected to begin operation in 2006. Several small zinc projects, including the Angas Zinc, the Browns Silver, the Hellyer Metals, and the Jaguar projects were in the planning stages. By 2011, Australia's zinc concentrates output could increase to 1.9 Mt/yr (Australian Bureau of Agricultural and Resource Economics, 2006a, p. 135).

**Manganese.**—Australia was one of the major manganese ore producing countries in the world. The Bootu Creek, the Groote Eylandt, and the Woodie Woodie Mines were the three operating manganese mines in the country. The Bootu Creek Mine, which is located 110 kilometers (km) north of Tennant Creek in the Northern Territory, was commissioned in late 2005. The mine was designed to produce 600,000 t/yr of lump and fine products that would be transported 900 km by rail to Darwin's East Arm Port for export. A $6.5 million expansion of Woodie Woodie Mine was also completed in 2005, and the output capacity of the mine increased to 1 Mt/yr. As a result of the new greenfield and brownfield expansion projects, Australia's manganese ore output increased in 2005 and was expected to continue to increase during the next several years (Geoscience Australia, 2006, p. 55).

**Nickel.**—Australia's main nickel ores were primary sulfides of nickel, which occur as lodes with mafic and ultramafic (iron- and magnesium-rich) igneous rocks. Western Australia had the largest nickel resources in Australia. Active operating nickel sulfide mines included BHP Billiton's Leinster and Mount Keith Mines; LionOre Mining International Ltd.'s Black Swan and Emily Ann Mines; Jubilee Mines NL's Cosmos Mine; Mincor Resources NL's Mitel and Wannaway Mines; International Gold NL's Long-Victor Mine; and Consolidated Mineral Ltd.'s Beta Hunt Mine.

Several new and expansion nickel mine projects were underway; they included BHP Billiton's Mt Keith project; Gladstone Pacific Ltd.'s Gladstone project; Jubilee Mines's Prospero project; LionOre's Black Swan, Honeymoon Well, and Maggie projects; and Western Areas NL's Flying Fox project. Refinery expansion at BHP Billiton's Yabulu plant was expected to be completed in 2007. After completion of all these projects, Australia's nickel mine output could reach 378,000 t; the production of nickel metal was expected to increase to 180,000 t in 2010 (Australian Bureau of Agricultural and Resource Economics, 2006a, p. 159).

**Titanium.**—Mineral sands deposits are concentrations of ilmenite, rutile, and zircon; they occur along the coast of eastern Australia from central New South Wales to Cape York in Queensland. Large relic beach deposits are found as far inland as Ouyen in Victoria in southwestern New South Wales, and in South Australia in more than 300,000 km$^2$ of the Murray Basin. In Western Australia, deposits are distributed from the southern tip of the State to Geraldton and are located at the coastline or as relic deposits of up to 35 km in length. The eastern deposits generally have a total heavy-mineral content of from 1% to 5% of approximately even amounts of ilmenite, rutile, and zircon. In Western Australia, the deposits also have a total heavy-mineral content of about the same or slightly higher percentage, but the ilmenite portion of this content approaches about 70%. Most of Australia's rutile and zircon output is exported. Ilmenite is upgraded to synthetic rutile that contains between about 92% and 94% $TiO_2$, and more than one-half of the production is exported.

BeMax Resources NL's Pooncarie project, which includes the Ginkgo and the Snapper deposits, is located in the northern part of the Murray Basin in New South Wales. The Ginkgo Mine was put into operation in late 2005. The Iluka Resources Ltd.'s Douglas project in Victoria was scheduled to begin operations in 2006 and to reach full production in 2007 with a combined production capacity of about 180,000 t/yr of rutile and zircon. Iluka Resources also planned to develop the northern Murray Basin deposits. Olympia Resources NL planned to develop the Keysbrook heavy-mineral sand resource, which is located south of Perth, in 2007 (Australian Bureau of Agricultural and Resource Economics, 2006a, p. 22).

### *Industrial Minerals*

**Diamond.**—Australia was one of the leading diamond producing countries in the world. Diamond production was mainly from the Argyle Mine in Western Australia. In 2005, Rio Tinto invested $760 million to develop an underground block-caving operation; bringing the underground mine into full operation is expected to take 3 years. After full operation in 2008, output from the underground operation will account for 60% of Argyle's total output. The open pit operation will be shut down gradually (Geoscience Australia, 2006, p. 35).

### *Mineral Fuels*

**Coal.**—Australia ranked behind China and India in the Asia and the Pacific region in coal output; the country, however, was the world's leading exporter of coal. In 2005, Australia exported more than 230 Mt of coal to such countries and areas as Japan, India, the Republic of Korea, and Taiwan (Australian Bureau of Agricultural and Resource Economics, 2006d, p. 19).

With limited transport and handling infrastructure in New South Wales and Queensland, coal exports were restricted from these regions. During the past several years, significant investment has been proposed to expand the transport and handling infrastructure. Australia's coal export capacity is expected to increase in the next 2 years. Several coal expansion projects are planned, including that of the Ashton, the Boggabri, the Tarawonga, and the Wambo mines in New South Wales in 2007. The upgrade of the Port of Newcastle was scheduled to be completed in 2007; this upgrade would increase the Port's total handling capacity to 102 Mt/yr. Construction of the Rolleston coal mine in Queensland was completed in 2005 and the mine was expected to produce 6 Mt in 2006 and to reach 12 Mt after the Phase 2 construction was completed later in the year. The expansion of the Dawson, the Ensham, the Grasstree, and the Hail Creek mines in Queensland were schedule to be completed in 2007. Port handling capacity in the Ports of Abbot Point, Dairymple Bay, Gladstone, and Hay Point would increase to a total of 198 Mt in 2008. Coal exports from Australia would increase to about 300 Mt in 2010 (Department of Industry Tourism and Resources, 2006, p. 18).

**Natural Gas and Petroleum.**—Western Australia and Victoria accounted for most of Australia's total oil and condensate and liquefied natural gas (LNG) production. The Carnarvon Basin in Western Australia accounted for 63% of the country's total production. Production from the Carnarvon Basin was mostly exported, and production from the Gippsland Basin in southeastern Australia was predominantly used to feed local refineries. During the past 5 years, Australia was a net importer of oil and its refinery products. With the startup of production at the Enfield project in the Carnarvon Basin and the Puffin project in the Banaparte Basin, Australia's oil and condensate production was expected to increase during the next several years. More than one-half of Australia's oil and condensate was exported to Asian countries, including Japan, the Republic of Korea, and Singapore. New Zealand and Singapore were Australia's leading markets for refinery products. Since the mid-1990s, Australian imports of oil from the Middle East have gradually decreased and have been replaced with oil imports from southeast Asian countries, such as Indonesia and Vietnam. Much of Australia's oilfields have matured; significant undiscovered oil and gas resources exist in the offshore regions, however, such as at the Gippsland Basin in Victoria, the Bonaparte Basin in the Northern Territory, and the Browse and the Carnarvon Basins in Western Australia (Department of Industry Tourism and Resources, 2006, p. 23).

With the expected increase in production from the Darwin and the Casino fields, Australia's natural gas output was expected to increase for the next several years. A number of new LNG agreements were signed between Australian oil and gas producers and Japanese energy companies. With such countries as China, Japan, and the Republic of Korea looking to secure sources of cleaner fuel for power generation, demand for Australia LNG exports was expected to increase and, in response, production of LNG was expected to increase during the next several years. Several natural gas and LNG projects, such as Camden Gas in New South Wales; Bass Gas, Kipper Gas, and Otway Gas in Victoria; and Angel Gas, Blacktip Gas, and Gorgon Gas in Western Australia, were expected to start up within the next 4 years (Department of Industry Tourism and Resources, 2006, p. 39).

**Uranium.**—Australia was the second leading uranium producer in the world following Canada. Australia's uranium production was mainly from three mines—the Beverley, the Olympic Dam, and the Ranger mines. A number of undeveloped deposits in the Northern Territory, Queensland, South Australia, and Western Australia also exist. The Australian Government permits uranium mining provided all the relevant environmental safeguards and health requirements are met. Regulation of Australia's uranium mines is mainly a State and Territorial government responsibility. Uranium mining is permitted only in the Northern Territory and South Australia. Recently, the policies of governments in the States of Queensland, South Australia, and Western Australia and the legislation in New South Wales and Victoria prevent the development of uranium mines in those jurisdictions. In South Australia, under the recent government's "no new mine" policy, projects that had previously received approval for development could proceed; existing mines could also continue to operate. The Honeymoon project, therefore, which was approved in 2001, was allowed to proceed. All Australia's uranium production was exported under long-term contracts to electricity utilities in Belgium, Finland, France, Germany, Japan, the Republic of Korea, Spain, Sweden, the United Kingdom, and the United States. The Governments of Australia and China signed a Nuclear Transfer Agreement and a Nuclear Cooperation Agreement. These agreements established strict safeguards to regulate the conditions under which uranium is exported from Australia to China (Australian Bureau of Agricultural and Resource Economics, 2006d, p. 53).

In 2005, the Ranger mine was the leading producing uranium mine in Australia and was expected to cease operation in 2020. BHP Billiton planned to expand Olympic Dam's uranium output to 15,000 t/yr from 4,400 t/yr in 2005; copper production from Olympic Dam would also increase to 500,000 t/yr. The expansion project faced infrastructure obstacles with increasing energy, transportation, and water requirements. The Federal and State governments imposed a limit on the volume of groundwater that could be extracted from the Great Artesian Basin aquifers for use in the Olympic Dam operation and the nearby township of Roxby Downs. The future of Australia's uranium production and exports will be affected by whether or not State government policy regarding the development of new uranium mines is changed. The timing of the proposed expansion of Olympic Dam and the commencement of the Honeymoon project in 2008 will also affect the volume of uranium output (Australian Bureau of Agricultural and Resource Economics, 2006d, p. 60).

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**Major Sources of Information**

Australian Bureau of Statistics (ABS)
P.O. Box 10
Belconnen, Australian Capital Territory 2616
Australia
Internet: http://www.abs.gov.au

Commonwealth Departments and Enterprises
Australian Bureau of Agricultural and Resource Economics (ABARE)
G.P.O. Box 1563
Canberra, Australian Capital Territory 2601
Australia
Internet: http://www.abareconomics.com

Commonwealth Scientific and Industrial Research Organization (CSIRO)
P.O. Box 225
Dickson, Australian Capital Territory 2602
Australia
Internet: http://www.csiro.au

Geoscience Australia (GA)
G.P.O. Box 378
Canberra, Australian Capital Territory 2601
Australia
Internet: http://www.ga.gov.au

TABLE 1
AUSTRALIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

| Commodity | | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| METALS | | | | | | |
| Aluminum: | | | | | | |
| Bauxite, gross weight | thousand metric tons | 53,799 | 54,135 | 55,602 | 43,993 | 59,959 |
| Alumina | do. | 16,313 | 16,382 | 16,529 | 16,525 | 17,704 |
| Metal, refined: | | | | | | |
| Primary | do. | 1,798 | 1,836 | 1,857 | 1,894 | 1,903 |
| Secondary[e] | | 127,000 | 127,000 | 127,000 | 127,000 | 127,000 |
| Antimony, Sb content of ores and concentrates | | 1,380 | 1,200 e | 900 e | 120 | 120 e |
| Cadmium: | | | | | | |
| Mine output, Cd content[e] | | 1,900 | 1,900 | 1,900 | 1,900 | 1,900 |
| Metal, smelter, refined | | 378 | 370 | 350 | 469 | 429 |
| Chromium, chromite, gross weight | | 11,800 | 132,665 | 138,826 | 140,000 e | 140,000 |
| Cobalt: | | | | | | |
| Co content in laterite ore, Ni concentrate, and Zn concentrate | | 6,200 | 6,500 | 7,000 | 7,000 e | 7,000 |
| Metal, refined | | 3,470 | 3,500 e | 3,840 | 3,900 e | 3,900 |
| Copper: | | | | | | |
| Mine output, Cu content | thousand metric tons | 898 r | 872 r | 830 | 875 r | 918 |
| Metal: | | | | | | |
| Smelter, primary and secondary | do. | 455 r | 456 r | 418 r | 440 r | 410 |
| Refined, primary | do. | 558 | 543 | 484 | 498 r | 461 |
| Gold: | | | | | | |
| Mine output, Au content | | 280 r | 266 r | 283 r | 258 r | 263 |
| Metal, refined: | | | | | | |
| Primary | | 305 r | 302 r | 331 r | 313 r | 291 |
| Secondary | | 68 | 47 r | 80 r | 58 r | 50 |
| Iron and steel: | | | | | | |
| Iron ore: | | | | | | |
| Gross weight | thousand metric tons | 181,200 r | 187,200 r | 213,000 r | 243,000 r | 261,900 |
| Fe content | do. | 112,592 | 113,548 | 116,355 | 143,980 | 175,300 |
| Metal: | | | | | | |
| Pig iron | do. | 60,117 r | 6,106 r | 6,116 r | 5,735 r | 6,648 |
| Ferroalloys:[e] | | | | | | |
| Ferromanganese | | 115,000 | 115,000 | 115,000 | 115,000 | 115,000 |
| Silicomanganese | | 135,000 | 135,000 | 135,000 | 135,000 | 135,000 |
| Total | | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| Steel, crude | thousand metric tons | 8,227 r | 8,874 r | 9,678 r | 8,353 r | 7,788 |
| Semimanufactured products | | 8,243 r | 6,457 r | 7,458 r | 6,671 r | 6,920 |
| Lead: | | | | | | |
| Mine output, Pb content | thousand metric tons | 759 r | 694 r | 688 | 674 r | 767 |
| Metal: | | | | | | |
| Bullion | do. | 195 | 187 r | 169 | 140 r | 159 |
| Refined: | | | | | | |
| Primary | do. | 237 | 268 r | 270 r | 232 r | 230 |
| Secondary excluding remelt | do. | 34 r | 36 r | 25 r | 36 r | 33 |
| Manganese ore, metallurgical: | | | | | | |
| Gross weight | do. | 1,961 r | 2,189 r | 2,564 r | 3,431 r | 3,136 |
| Mn content | do. | 948 | 983 | 1,247 | 1,570 r | 1,500 |
| Nickel: | | | | | | |
| Mine output, Ni content | do. | 197 r | 188 r | 191 r | 187 r | 189 |
| Matte | do. | 100 | 98 | 108 | 107 | 115 |
| Metal, smelter, refined Ni and Ni content of oxide | do. | 128 | 132 r | 129 r | 122 r | 122 |
| Platinum-group metals:[e] | | | | | | |
| Palladium, Pd content | kilograms | 828 [2] | 800 | 820 | 800 | 800 |
| Platinum, Pt content | do. | 174 [2] | 200 | 225 | 200 | 200 |
| Total | do. | 1,002 [2] | 1,000 | 1,050 | 1,000 | 1,000 |

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

| Commodity | | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| METALS--Continued | | | | | | |
| Silver: | | | | | | |
| Mine output, Ag content | | 1,970 | 2,077 | 1,868 | 2,224 r | 2,417 |
| Metal, refined | | 584 r | 644 r | 649 r | 650 | 727 |
| Tin: | | | | | | |
| Mine output, Sn content | | 9,840 r | 7,017 r | 3,864 r | 1,196 r | 2,819 |
| Metal, refined: | | | | | | |
| Primary | | 1,094 | 791 r | 597 | 467 | 594 |
| Secondary e | | 400 | 400 | 400 | 400 | 400 |
| Tantalum, tantalite, $T_2O_5$ equalvent | | 806 | 985 | 973 | 1,019 | 1,041 |
| Titanium concentrates, gross weight: | | | | | | |
| Ilmenite | thousand metric tons | 2,019 r | 1,954 r | 2,006 | 1,921 | 2,030 |
| Leucoxene | | 30,000 | 39,000 | 57,000 | 44,000 | 46,000 |
| Rutile | | 207,000 r | 219,000 r | 173,000 | 163,000 r | 177,000 |
| Zinc: | | | | | | |
| Mine output, Zn content | thousand metric tons | 1,517 r | 1,469 | 1,479 | 1,334 | 1,367 |
| Metal, smelter: | | | | | | |
| Primary | do. | 556 r | 567 | 553 | 470 r | 457 |
| Secondary e | | 6,000 r | 6,000 r | 6,000 r | 6,000 r | 6,000 |
| Zirconium concentrates, gross weight | thousand metric tons | 394 | 412 | 462 | 441 r | 427 |
| INDUSTRIAL MINERALS | | | | | | |
| Abrasives, natural: e | | | | | | |
| Beach pebble | | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| Garnet | | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| Barite e | | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Cement, hydraulic e | thousand metric tons | 7,500 | 7,550 | 8,000 | 8,000 | 8,000 |
| Clays: e | | | | | | |
| Bentonite and bentonitic clay | | 180,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| Brick clay and shale | thousand metric tons | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 |
| Cement clay and shale | do. | 500 | 500 | 500 | 500 | 500 |
| Damourite clay | | 100 | 100 | 100 | 100 | 100 |
| Fire clay | | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| Fuller's earth, attapulgite | | 5,600 | 6,000 | 6,000 | 6,000 | 6,000 |
| Kaolin and ball clay | | 220,000 | 230,000 | 240,000 | 240,000 | 240,000 |
| Other | thousand metric tons | 1,000 | 1,000 | 2,000 | 2,000 | 2,000 |
| Diamond: | | | | | | |
| Gem | thousand carats | 14,397 | 15,136 | 13,981 | 20,602 | 30,703 |
| Industrial | do. | 11,779 | 18,500 | 17,087 | 22,709 | 24,000 e |
| Total | do. | 26,176 | 33,636 | 31,068 | 43,311 | 54,703 |
| Diatomite e | | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Feldspar, including nepheline syenite e | | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| Gemstones, other than diamond: | | | | | | |
| Opal | value, $million | 53 | 47 | 50 | 36 | 40 e |
| Sapphire | do. | 5 | 1 | -- | -- | -- e |
| Total | do. | 58 | 48 | 50 | 36 | 40 e |
| Gypsum | thousand metric tons | 3,225 r | 4,268 r | 4,066 r | 4,325 r | 3,857 |
| Kyanite e | | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Lime e | | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 |
| Magnesite | | 605,314 | 484,314 | 472,668 | 473,983 | 474,000 e |
| Nitrogen, N content of ammonia | | 762,200 | 686,400 | 786,800 | 790,000 | 790,000 |
| Perlite, crude e | | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Phosphate rock | | 977,100 | 2,024,580 | 2,100,000 e | 2,200,000 e | 2,200,000 |
| Salt[3] | thousand metric tons | 9,254 r | 9,961 r | 10,256 | 11,088 | 12,444 |
| Stone and sand and gravel: | | | | | | |
| Construction sand | do. | 26,800 r | 28,988 r | 28,825 r | 32,229 r | 35,000 e |
| Crushed and broken stone | do. | 70,400 r | 68,369 r | 75,649 r | 89,179 r | 90,000 e |
| Dimension stone | do. | 132 r | 143 r | 147 r | 258 r | 260 e |
| Gravel | do. | 9,858 r | 12,155 r | 12,718 r | 18,850 r | 20,000 e |
| Dolomite e | do. | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

| Commodity | | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| INDUSTRIAL MINERALS--Continued | | | | | | |
| Stone and sand and gravel--Continued: | | | | | | |
| Limestone | thousand metric tons | 15,215 r | 18,333 r | 17,076 r | 17,211 r | 17,500 e |
| Silica in the form of quartz, quartzite, glass sand | do. | 4,472 r | 4,046 r | 4,181 r | 3,670 r | 3,600 e |
| Sulfur, byproduct: | | | | | | |
| Metallurgy | do. | 817 | 899 | 900 e | 900 e | 900 e |
| Petroleum | do. | 45 | 60 | 60 e | 60 e | 60 e |
| Total | do. | 862 | 959 | 960 e | 960 e | 960 e |
| Talc, chlorite, pyrophyllite, steatite | | 160,741 r | 165,980 r | 123,080 r | 151,582 r | 155,000 e |
| MINERAL FUELS AND RELATED MATERIALS | | | | | | |
| Coal: | | | | | | |
| Bituminous and subbituminous | thousand metric tons | 264,680 | 274,850 r | 280,700 r | 298,000 r | 303,000 |
| Lignite e | do. | 70,000 | 73,000 | 66,000 r | 67,000 | 67,000 e |
| Total e | do. | 335,000 | 421,000 r | 346,700 r | 365,000 r | 370,000 e |
| Coke, metallurgical e | do. | 800 | 300 | 300 | 300 | 300 |
| Gas, natural, marketed | million cubic meters | 34,820 r | 36,200 r | 37,410 r | 41,680 r | 42,630 |
| Petroleum: | | | | | | |
| Crude | thousand 42-gallon barrels | 237,889 r | 221,036 r | 193,216 r | 171,781 r | 155,320 |
| Refinery products | do. | 293,589 r | 293,878 r | 273,518 r | 280,242 r | 255,863 |
| Uranium, mine output, $U_3O_8$ content | | 7,680 | 3,536 | 8,912 | 10,600 r | 11,218 |

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.
[1]Table includes data available through January 25, 2007.
[2]Does not include production from the Northern Territory and the State of Victoria.

TABLE 2
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|
| Alumina | Queensland Alumina Ltd., operator [Rio Tinto Ltd., 30.3%; Kaiser Aluminum and Chemical Corp. (Australia) Ltd., 28.3%; Alcan South Pacific Pty. Ltd., 21.4%; Pechiney Australia Pty. Ltd., 20%] | Gladstone alumina refinery, QLD | 3,800 |
| Do. | Alcan Northern Territory Pty. Ltd., 70%, and Alcan South Pacific Pty. Ltd., 30% | Gove alumina refinery, NT | 1,900 |
| Do. | Alcoa World Alumina Australia, 100% | Kwinana alumina refinery, WA | 2,100 |
| Do. | do. | Pinjarra alumina refinery, WA | 3,400 |
| Do. | Alcoa World Alumina Australia, 60%, and Western Mining Corp., 40% | Wagerup alumina refinery near Waroona, WA | 2,200 |
| Do. | Worsley Alumina Pty. Ltd., manager [BHP Billiton Ltd., 86%, and Japan Alumina Associates (Australia) Pty Ltd., 10%] | Worsley alumina refinery, 20 km NW of Collie, WA | 3,200 |
| Aluminum | Comalco Aluminium (Bell Bay) Ltd., 100% | Bell Bay aluminum smelter, TAS | 142 |
| Do. | VAW Kurri Kurri Pty. Ltd., 100% | Kurri Kurri aluminum smelter, NSW | 150 |
| Do. | Boyne Smelters Ltd., operator (Rio Tinto Ltd., 64%; Sumitomo Light Metal Industries Ltd., 17%; Ryowa Development Pty. Ltd., 12%, Kobe Steel Ltd., 5%; Sumitomo Chemical Co. Ltd., 2%) | Boyne Island aluminum smelter, QLD | 490 |
| Do. | Alcoa of Australia, 100% | Point Henry aluminum smelter, VIC | 185 |
| Do. | Alcoa of Australia, 45% and manager; China International Trust Investment Co. (a Chinese Government agency), 2.5%; Marubeni Australia Pty. Ltd., 22.5%; Eastern Aluminum Ltd., 10% | Portland aluminum smelter, VIC | 345 |
| Do. | Tomago Aluminium Co. Pty. Ltd., operator (Gove Aluminium Finance Ltd., 36%; Pechiney Australia Pty. Ltd., 36%; Australian Mutual Provident Society, 16%; VAW Australia Pty. Ltd., 12%) | Tomago aluminum smelter, NSW | 444 |
| Antimony | New England Antimony Mines NL, 100% | Hillgrove underground antimony-gold mine, 25 km E of Armidale, NSW | 4 |
| Bauxite | Alcan Inc., 100% | Gove open pit bauxite mine, Gove Peninsula, NT | 7,000 |
| Do. | Alcoa World Alumina Australia, 100% | Huntly open pit bauxite mine, 80 km S of Perth, WA | 20,000 |
| Do. | Comalco Ltd., operator (Rio Tinto plc, 100%) | Weipa-Andoom open pit bauxite mine, Weipa, QLD | 12,000 |
| Do. | do. | Willowdale open pit bauxite mine, 130 km S of Perth, WA | 8,600 |
| Do. | Worsley Alumina Pty. Ltd., manager [BHP Billiton Ltd., 86%; Kobe Alumina Associates (Australia) Pty. Ltd., 10%; Nissho Iwai Alumina Pty. Ltd., 4%] | Worsley open pit bauxite mine, 50 km NE of Collie, WA | 11,000 |
| Bentonite | Arumpo Bentonite Pty. Ltd., 100% | Arumpo open pit bentonite mine, 95 km NE of Mildura, NSW | 10 |
| Do. | Unimin Australia Ltd., 100% | Cressfield open pit bentonite mine, 20 km N of Scone, NSW | 12 |
| Do. | do. | Miles open pit bentonite mine, 350 km W of Brisbane, QLD | 100 |
| Cement | Blue Circle Southern Cement Ltd., 100% | Berrima Cement Plant, NSW | 1,200 |
| Do. | Adelaide Brighton Cement Ltd., 100% | Birkenhead Cement Plant, SA | 1,000 |
| Do. | Queensland Cement Ltd., 100% | Darra Cement Plant, QLD | 700 |
| Do. | Adelaide Brighton Cement Ltd., 100% | Geelong Cement Plant, VIC | 800 |
| Do. | Goliath Cement Holdings Ltd., 100% | Railton Cement Plant, TAS | 1,000 |
| Do. | Cockburn Cement Ltd., 100% | South Coogee Cement Plant, WA | 1,000 |
| Chromite | Sylvania Resources Ltd., 100% | Coobina open pit chromite mine, 56 km ESE of Newman, WA | 100 |
| Coal, black | Powercoal Pty. Ltd., 100% | Angus Place longwall coal mine, 16 km NW of Lithgow, NSW | 2,200 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|
| Coal, black--Continued: | BHP Steel (AIS) Pty. Ltd., 100% | Appin longwall coal mine, 40 NW of Wollongong, NSW | 3,300 |
| Do. | Powercoal Pty. Ltd., 100% | Awaba underground coal mine, 30 km SW of Newcastle, NSW | 2,000 |
| Do. | Oakbridge Pty. Ltd., 95%, and Sumitomo Corp., 5% | Baal Bone longwall coal mine, 24 km NW of Lithgow, NSW | 3,500 |
| Do. | BHP Billiton Hunter Valley Energy Coal, 100% | Bayswater open pit coal mine, 33 km NW of Singleton, 13 km SSW of Muswellbrok, NSW | 5,500 |
| Do. | Coal and Allied Industries Ltd., 40% and manager (Wesfarmers Bengalla Ltd., 40%; MCDA Bengalla Investment Pty. Ltd., 10%; Taipower Bengalla Pty. Ltd., 10%) | Bengalla open pit coal mine, 5 km W of Muswellbrook, NSW | 5,000 |
| Do. | Berrima Coal Pty. Ltd., 100% | Berrima underground coal mine, 60 km NE of Goulburn, NSW | 2,000 |
| Do. | BHP Billiton Mitsubishi Alliance, manager (BHP Billiton Ltd., 50%, and Mitsubishi Development Pty. Ltd., 50%) | Blackwater open pit coal mine (includes South Blackwater), 195 km W of Rockhamton, QLD | 13,500 |
| Do. | Xstrata Coal Australia Pty. Ltd., manager (Oakbridge Pty. Ltd., 87.5%, and Nippon Steel Australia Pty. Ltd., 12.5%) | Bulga open pit/longwall coal mine, 16 km SW of Singleton, NSW | 11,000 |
| Do. | Pacific Coal Pty. Ltd., 57.195% and manager [Leichhardt Coal Pty. Ltd., 31.419%; EPDC (Australia) Pty. Ltd., 7.9723%; and Japan Coal Development Co. Ltd., 3.416%] | Blair Athol open pit coal mine, 110 km NW of Emerald, 25 km NW of Clermont, QLD | 11,000 |
| Do. | Bloomfield Collieries Pty. Ltd., 100% | Bloomfield open pit coal mine, 20 km NW of Newcastle, 5 km SE of Maitland, NSW | 1,300 |
| Do. | Anglo Coal Holdings Australia Ltd., 100% | Boundary Hill open pit coal mine (includes Callide), 115 km to 140 km W of Gladstone, QLD | 7,250 |
| Do. | RAG Australia Pty. Ltd., manager (Burton Coal Pty. Ltd., 95%, and Thiess Pty. Ltd., 5%) | Burton open pit coal mine, 150 km SW of Mackay, QLD | 5,800 |
| Do. | Camberwell Coal Pty. Ltd., manager [Toyota Tsusho Mining (Australia) Pty. Ltd., 90%, and Dia Coal Mining (Australia) Pty. Ltd., 10%] | Camberwell open pit coal mine, 10 km NW of Singleton, NSW | 4,000 |
| Do. | LakeCoal Pty. Ltd., 80%, manager; Catherine Hill Resources Pty. Ltd., 20% | Chain Valley underground coal mine, 48 km S of Newcastle, NSW | 3,000 |
| Do. | Centennial Coal Co. Ltd., 85%, manager; SK Australia Pty. Ltd., 15% | Clarence underground coal mine, 10 km E of Lithgow, NSW | 2,200 |
| Do. | Roche Mining Pty. Ltd., operator (Millmerran Power Partners, 100%) | Commodore open pit coal mine, 80 km S of Toowoomba, QLD | 3,600 |
| Do. | Xstrata Coal Australia Pty. Ltd., 50%; Centennial Coal Co. Ltd., 45%; Tokyo Boeki Ltd., 5% | Cook underground coal mine, near Blackwater, QLD | 1,000 |
| Do. | Powercoal Pty. Ltd., 100%, manager | Cooranbong underground coal mine, 35 km SW of Newcastle, NSW | 1,600 |
| Do. | Australian Premium Coals Pty. Ltd., manager (Macarthur Coal Ltd., 45%; QCR No. 2 Pty. Ltd., 20%; CPB Coals Pty., 10%; Marubeni Coal Pty. Ltd., 7.5%; Nissho Iwai Australia Ltd., 7.5%; Citic Australia Coal Ltd., 5%; Kawasho Group, 3%; Nittetsu Shoji, 2%) | Coppabella open pit coal mine, 150 km SW of Mackay, QLD | 4,700 |
| Do. | BHP Billiton Mitsubishi Alliance, manager (BHP Billiton Ltd., 50%, and Mitsubishi Development Pty. Ltd., 50%) | Crinum longwall coal mine, 45 km NE of Emerald, QLD | 4,000 |
| Do. | Cumnock No. 1 Colliery Pty. Ltd., 100% | Cumnock No. 1 open pit/longwall coal mine, 28 km NW of Singleton, NSW | 2,750 |
| Do. | Curragh Queensland Mining Ltd., 100% | Curragh open pit coal mine, 70 km E of Emerald, QLD | 5,000 |
| Do. | Anglo Coal Holdings Australia Ltd., 93%, and Ssangyong Resources Ltd., 7% | Dartbrook longwall coal mine, 70 km N of Singleton, NSW | 3,750 |
| Do. | BHP Billiton Ltd., 100% | Dendrobium longwall coal mine, 15 km SW of Wollongong, NSW | 5,200 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|
| Coal, black--Continued: | Anglo Coal Holdings Australia Ltd., 88.2% and manager; Mitsui Coal Development Australia Pty. Ltd., 3.8%; Mitsui Mining (Australia) Pty. Ltd., 3%; Daesung Australia Pty. Ltd., 2.5%; and Hyundai (Australia) Pty. Ltd., 2.5% | Drayton open pit coal mine, 35 km NW of Singleton, NSW | 5,000 |
| Do. | Ebenezer Mining Co., 100% | Ebenezer open pit coal mine, 40 km SW of Brisbane, QLD | 1,500 |
| Do. | BHP Steel (AIS) Pty. Ltd. | Elouera longwall coal mine, 15 km SW of Wollongong, NSW | 2,000 |
| Do. | Idemitsu Kosan Co. Ltd., 85%; EPDC (Australia) Pty. Ltd., 10%; LG International (Australia) Pty. Ltd., 5% | Ensham-Yongala open pit coal mine, 40 km NE of Emerald, QLD | 5,500 |
| Do. | Griffin Coal Mining Co. Pty. Ltd., 100% | Ewington II open pit coal mine, 8 km E of Collie, WA | 1,000 |
| Do. | CAML Resources Pty. Ltd., 63%; Itochu Corp., 20.6%; Bowen Basin Investments Pty. Ltd., 16.4% | Foxleigh open pit coal mine, Bowen Basin, QLD | 2,300 |
| Do. | Anglo Coal Holdings Australia Ltd., 100% of German Creek and 75.04% of German Creek East; Marubeni Coal Pty. Ltd., 24.96% of German Creek East | German Creek and German Creek East open pit/longwall coal mines, 275 km WNW of Rockhampton, QLD | 6,000 |
| Do. | Console Energy Inc., 50% and Namoi Hunter Pty. Ltd., 50% | Glennies Creek longwall coal mine, 12 km N of Singleton, NSW | 2,500 |
| Do. | BHP Billiton Ltd., 80% at Riverside and 50% at Goonyella; Mitsubishi Corp., 50% at Goonyella; BHP Mitsui Coal Pty. Ltd., 20% at Riverside | Goonyella-Riverside open pit coal mines, 140 km SW of Mackay, QLD | 11,000 |
| Do. | BHP Billiton Mitsubishi Alliance, manager (BHP Billiton Ltd., 50%, and Mitsubishi Development Pty. Ltd., 50%) | Gregory open pit coal mine, 60 km N of Emerald, QLD | 5,500 |
| Do. | Coal and Allied Industries Ltd., 100%, manager | Hunter Valley Operations (includes Carrington Chestnut, Howick, Hunter Valley No. 1, Lemington, Riverview open pit coal mines), 10 km W to 25 km N of Singleton, NSW | 15,000 |
| Do. | New Hope Corp. Ltd., 100% | Jeebropilly open pit coal mine, 35 km SW of Brisbane, QLD | 1,500 |
| Do. | Queensland Coal Mine Management Pty. Ltd., 70%; Winnin Pty. Ltd., 15%; Marubeni Coal Pty. Ltd., 15% | Jellinbah East open pit coal mine, 90 km E of Emerald, QLD | 3,000 |
| Do. | Pacific Coal Pty. Ltd., 80%, and Kestrel Coal Investment Pty. Ltd., 20% | Kestrel longwall coal mine, 40 km NNE of Emerald, QLD | 3,300 |
| Do. | Xstrata Coal Australia Pty. Ltd., 67%, and Mitsui Matushima Australia Pty. Ltd., 32.5% | Liddell open pit coal mine, 25 km NW of Singleton, NSW | 4,000 |
| Do. | Burragorang Valley Coal Pty. Ltd., 100% | Metropolitan longwall coal mine, 30 km N of Wollongong, NSW | 1,400 |
| Do. | LakeCoal Pty. Ltd., 80%, and Catherine Hill Resources Pty. Ltd., 20% | Moonee longwall coal mine, 37 km S of Newcastle, NSW | 1,200 |
| Do. | Anglo Coal Holdings Australia Ltd., 88%; Nippon Steel Australia Pty. Ltd., 5%; Tomen Coal Resources Pty. Ltd., 3.75%; private interests, 3.25% | Moranbah North longwall coal mine, 150 km SW of Mackay, QLD | 5,700 |
| Do. | Hunter Valley Coal Corp., 100% | Mount Owen open pit coal mine, 20 km NW of Singleton, near Ravensworth, NSW | 8,000 |
| Do. | Coal and Allied Industries Ltd., 80%, and Pohang Steel Australia Pty. Ltd., 20% | Mount Thorley open pit coal mine, 14 km SW of Singleton, NSW | 6,500 |
| Do. | Mitsui & Co. (Australia) Ltd., 100% | Moura open pit coal mine, 185 km W of Gladstone, QLD | 4,400 |
| Do. | The Griffin Coal Mining Co. Pty. Ltd., 100% | Muja open pit coal mine, 18 km SE of Collie, WA | 2,000 |
| Do. | Powercoal Pty. Ltd., 100% | Munmorah underground coal mine, 55 km S of Newcastle, NSW | 7,000 |
| Do. | Muswellbrook Coal Co., 100% | Muswellbrook No. 2 open pit coal mine, 4 km NE of Muswellbrook, Hunter Valley NSW | 1,700 |
| Do. | Powercoal Pty. Ltd., 100% | Myuna underground coal mine, 35 km S of Newcastle, NSW | 1,500 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|
| Coal, black--Continued: | Nardell Coal Corp., 100% | Nardell underground coal mine, 18 km NW of Singleton, NSW | 1,200 |
| Do. | MIM Holdings Ltd., manager (Collinsville Coal Co. Pty. Ltd., 75%, and Itochu Coal Resources Australia Pty. Ltd., 25%) | Newlands-Collinsville-Abbot Point open pit/longwall coal mine, 130 km west of Mackay, QLD | 7,000 |
| Do. | Powercoal Pty. Ltd., 100%, manager | Newstan longwall coal mine, 30 km SW of Newcastle, NSW | 2,700 |
| Do. | Rag Coal International AG, 40%, and Thiess Pty. Ltd., 40% | North Goonyella longwall coal mine, 180 km W of Mackay, QLD | 3,000 |
| Do. | BHP Billiton Ltd., 50%, and Mitsubishi Corp., 50% | Norwich Park open pit coal mine, 85 km NNE of Emerald, QLD | 4,000 |
| Do. | Oaky Creek Coal Pty. Ltd., 75%; Sumitomo Coal Australia Pty. Ltd., 15%; Itocho Coal Resources Australia Pty. Ltd., 10%, of Oaky Creek; Namoi Highwall Pty. Ltd., 50%, and Sumitomo Coal Australia Pty. Ltd., 50%, of Alliance | Oaky Creek longwall and Alliance open pit coal mines, 300 km WNW of Rockhampton, QLD | 9,500 |
| Do. | BHP Billiton Ltd., 50%, and Mitsubishi Development Pty. Ltd., 50% | Peak Downs open pit coal mine, 145 km N of Emerald, QLD | 7,500 |
| Do. | Wesfarmers Premier Coal Ltd., 100% | Premier open pit coal mine, 10 km SE of Collie, WA | 4,000 |
| Do. | Xstrata Coal Australia Pty. Ltd., 100% of Ravensworth and 50% at Narama; Iluka Resources Ltd., 50% at Narama | Ravensworth-Narama open pit coal mine (includes Ravensworth East), at Lemington, 20 km NW of Singleton, NSW | 6,200 |
| Do. | Bloomfield Colliers Pty. Ltd., 100% | Rixs Creek open pit coal mine, 5 km NW of Singleton, NSW | 2,000 |
| Do. | BHP Mitsui Coal Pty. Ltd., 100% | South Walker Creek open pit/ underground coal mine, 90 km SW of Mackay, 20 km W of Nebo, QLD | 3,500 |
| Do. | BHP Billiton Ltd., 50%, and Mitsubishi Development Pty. Ltd., 50% | Saraji open pit coal mine, 125 km N of Emerald, QLD | 5,000 |
| Do. | Southland Coal Pty. Ltd., 90%, and Thiess Pty. Ltd., 10% | Southland longwall coal mine, 40 km W of Newcastle, NSW | 2,000 |
| Do. | G.C. Springvale Pty. Ltd., 50%, and Samsung Development (Australia) Pty. Ltd., 50% | Springvale longwall coal mine, 16 km NW of Lithgow, NSW | 2,000 |
| Do. | Austral Coal Ltd., 100% | Tahmoor longwall coal mine (includes Tahmoor North and Bargo), near Picton, about 70 km SW of Sydney, NSW | 2,000 |
| Do. | Pacific Coal Pty. Ltd., 100% | Tarong-Meandu open pit coal mine, 85 km N of Toowoomba, QLD | 5,500 |
| Do. | BHP Steel (AIS) Pty. Ltd., 100% | Tower longwall coal mine, 32 km NW of Wollongong, NSW | 2,000 |
| Do. | Ulan Coal Mines Ltd., 10%, and Mitsubishi Development Pty. Ltd., 10% | Ulan open pit/longwall coal mine, 45 km NW of Mudgee, NSW | 12,000 |
| Do. | Xstrata Coal Australia Pty. Ltd., 95%, and United Mine Workers, 5% | United Collieries underground coal mine, 15 km W of Singleton, NSW | 1,600 |
| Do. | Wambo Coal Pty. Ltd., 100% | Wambo longwall coal mine, 15 km W of Singleton, NSW | 3,100 |
| Do. | Coal and Allied Industries, Ltd., 55.574%; Mitsubishi Coal Development Pty. Ltd., 28.898%; Nippon Steel Australia Pty. Ltd., 9.528%; Mitsubishi Corp., 6% | Warkworth open pit coal mine, 11 km SW of Singleton, NSW | 6,400 |
| Do. | BHP Steel (AIS) Pty. Ltd., 100% | West Cliff longwall coal mine, 43 km NW of Wollongong, NSW | 3,000 |
| Do. | Oceanic Coal Australia Ltd., 70%; Marubeni Coal Pty. Ltd., 17%; Ocal Macquarie Pty. Ltd., 10%; Kokan Kogyo (Australia) Pty. Ltd., 3% | West Wallsend longwall coal mine, 25 km SW of Newcastle, NSW | 3,000 |
| Do. | Powercoal Pty. Ltd., 100% | Wyee longwall coal mine, 40 km S of Newcastle, NSW | 1,200 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|
| Coal, brown | Alcoa World Alumina Australia, 100% | Anglesea open pit lignite mine, 97 km SW of Melbourne, near Geelong, VIC | 1,200 |
| Do. | Hazelwood Power, 100% | Hazelwood open pit lignite mine at Morwell, 150 km SE of Melbourne, VIC | 19,500 |
| Do. | Loy Yang Power Ltd., 100% | Loy Yang open pit lignite mine at Traralgon, 165 km E of Melbourne, VIC | 32,000 |
| Do. | Auspower Pty. Ltd., 73.6%; Powergen Plc., 18.4%; Deutsche Asset Management, 8% | Yallourn open pit lignite mine, 140 km SE of Melbourne, VIC | 18,500 |
| Cobalt | Preston Resources Ltd., 100% | Bulong open pit nickel-cobalt mine, 30 km E of Kalgoorlie, WA | 0.1 |
| Do. | OM Group Inc., 100% | Cawse open pit nickel-cobalt mine, 50 km NW of Kalgoorlie, WA | 0.2 |
| Do. | Anaconda Nickel Ltd., 60%, manager; Glencore Australia Pty. Ltd. International AG, 40% | Murrin Murrin open pit nickel-cobalt mine, 60 km E of Leonora, WA | 0.1 |
| Do. | Australian Nickel Mines NL, 100% | Radio Hill underground nickel-cobalt mine, 100 km ESE of Karratha, WA | 0.2 |
| Do. | QNI Pty. Ltd., 100% | Yabulu nickel-cobalt refinery, Townsville, QLD | 2 |
| Copper | Newcrest Mining Ltd., 100% | Cadia Hill open pit gold-copper mine, 21 km SSW of Orange, NSW | 25 |
| Do. | Glencore Australia Pty. Ltd., 100% | Cobar underground copper mine, 10 km NW of Cobar, NSW | 30 |
| Do. | Amalg Resources NL, 100% | Eloise underground copper mine, 60 km SE of Cloncurry, QLD | 70 |
| Do. | MIM Holdings Ltd., 51%, and Westpac Banking Corp., 49% | Ernest Henry open pit copper-gold mine, 35 km NE of Cloncurry, QLD | 105 |
| Do. | Murchison Zinc Co. Pty. Ltd., 100% | Golden Grove underground zinc-copper mine (includes Gossan Hill and Scuddles), 225 km E of Geraldton, WA | 6 |
| Do. | Thalanga Copper Mines Pty. Ltd., 70%, and BML Holdings Pty. Ltd., 30% | Highway-Reward open pit and underground copper mine, 37 km S of Charters Towers | 185 |
| Do. | Western Metals Ltd., 100% | Hellyer underground zinc-lead-copper-silver mine, 80 km SSW of Burnie, TAS | 1 |
| Do. | Copper Refineries Pty. Ltd., operator (MIM Holdings Ltd., 100%) | MIM copper refinery, Townsville, QLD | 270 |
| Do. | MIM Holdings Ltd., 100% | MIM copper smelter, QLD | 250 |
| Do. | Matrix Metals Ltd., 100% | Mount pithbert open pit mine (includes Mount Watson), 90 km NW of Cloncurry, QLD | 8 |
| Do. | Western Metals Ltd., 100% | Mount Gordon open pit copper mine (includes Esperanza and Mammoth), 125 kilometers N of Mount Isa | 46 |
| Do. | MIM Holdings Ltd., 100% | Mount Isa underground copper-lead-zinc-silver mine (also includes Enterprise, George Fisher, and Hilton mines) at Mount Isa, QLD | 275 |
| Do. | Copper Mines of Tasmania Pty. Ltd., 100% | Mount Lyell underground copper-gold mine, 2 km NE of Queenstown, TAS | 35 |
| Do. | Straits (Nifty) Pty. Ltd., 100% | Nifty open pit copper mine, 200 km SE of Marble Bar, WA | 22 |
| Do. | Rio Tinto Ltd., 80%; Sumitomo Metal Mining Oceania Pty. Ltd., 13.3%; SC Mineral Resources Pty. Ltd., 6.7% | Northparkes open pit/underground copper-gold mine, 27 km N of Parkes, NSW | 55 |
| Do. | WMC Olympic Dam Operations Pty. Ltd., 100% | Olympic Dam underground copper-silver-gold-uranium mine at Roxby Downs. 80 km N of Woomera, SA | 220 |
| Do. | do. | Olympic Dam copper refinery, SA | 220 |
| Do. | do. | Olympic Dam copper smelter, SA | 70 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|---|
| Copper--Continued: | | Placer Dome Asia Pacific Ltd., 100% | Osborne underground copper-gold mine, 195 km SE of Mount Isa, QLD | 50 |
| Do. | | Peak Gold Mines Pty. Ltd., 100% | Peak underground gold-zinc-lead-copper-silver underground mine (includes New Cobar, New Occidental, and Perseverance), 8 km S of Cobar, NSW | 3 |
| Do. | | Furukawa Co. Ltd., 52.5%; Nittetsu Mining Co., 20%; Nissho Iwai Corp., 17.5%; Itochu Corp., 10% | Port Kembla copper refinery, NSW | 120 |
| Do. | | do. | Port Kembla copper smelter, NSW | 120 |
| Do. | | Newcrest Mining Ltd., 100% | Ridgeway underground gold-copper mine, 25 km S of Orange, NSW | 30 |
| Do. | | Pasminco Ltd., 100% | Rosebery underground zinc-lead-silver-copper-gold mine, 35 km N of Queenstown, TAS | 1 |
| Do. | | Selwyn Mines Ltd., 100% | Selwyn underground copper-gold mine, 150 km SE of Mount Isa, QLD | 17 |
| Diamond | thousand carats | Rio Tinto plc., 100% | Argyle Mine (AK-1 lamproite pipe and alluvial diamond mines), 120 km SW of Kununurra, WA | 26,000 |
| Do. | do. | do. | Merlin open pit diamond mine, 80 km S of Borroloola, NT | 55 |
| Diatomite | | Australian Diatomite Mining Pty. Ltd., 100% | Barraba open pit diatomite mine, 85 km NNW of Tamworth, NSW | 25 |
| Dolomite | | OneSteel Ltd., 100% | Ardrossan metallurgical dolomite quarry, Northern York Peninsula, SA | 650 |
| Feldspar | | Minerals Corp. Ltd., 100% | Triple Chance open pit feldspar mine (includes Lady Beryl, Bakers, and Spar Ridge), 42 km SW of Broken Hill, NSW | 15 |
| Garnet | | GMA Garnet Pty. Ltd., 100% | Port Gregory open pit industrial garnet mine, 100 km N of Geraldton, WA | 200 |
| Gas: | | | | |
| Condensate | thousand 42-gallon barrels per day | Woodside Petroleum Pty. Ltd., manager [BHP Petroleum Pty. Ltd., BP Australia Holdings Ltd., Chevron Asiatic Ltd., Japan Australia LNG (MIMI) Pty. Ltd., Shell Development (Australia) Pty. Ltd., and Woodside Petroleum Ltd., 16.67% each] | North West Shelf gas operations, 130 km offshore from Dampier, WA | 60 |
| Natural | million cubic meters per day | Woodside Petroleum Pty. Ltd., manager [BHP Petroleum Pty. Ltd., BP Australia Holdings Ltd., Chevron Asiatic Ltd., Japan Australia LNG (MIMI) Pty. Ltd., Shell Development (Australia) Pty. Ltd., and Woodside Petroleum Ltd., 16.67% each] | North West Shelf gas operations, 130 km offshore from Dampier, WA | 20 |
| Liquefied natural | million metric tons | do. | Three-train liquefaction plant, Burrup Peninsula, WA | 8 |
| Gold | kilograms | Gold Fields Ltd. (South Africa), 100% | Agnew open pit/underground gold mine, 23 km W of Leinster, WA | 5,600 |
| Do. | do. | New Hampton Goldfields Ltd., 100% | Big Bell Consolidated open pit/underground gold mine (includes Big Bell, Black Swan, Cuddingwarra, Great Fingall, Golden Crown, and Tuckabianna): Big Bell, 30 km WNW of Cue; Cuddingwarra, 10 km WNW of Cue; Golden Crown, 7 km S of Cue, WA | 7,000 |
| Do. | do. | Worsley Alumina Pty. Ltd., operator (Newmont Mining Corp., 44.45%; AngloGold Ltd., 33.33%; Newcrest Mining Ltd., 22.22%) | Boddington open pit/underground gold mine (includes Wandoo and Hedges), 150 km SE of Perth, WA[4] | 12,000 |
| Do. | do. | Normandy Yandal Operations Ltd., 100% | Bronzewing underground gold mine (includes Mount McClure), 65 km NE of Leinster, WA | 9,000 |
| Do. | do. | Newcrest Mining Ltd., 100% | Cadia Hill open pit gold-copper mine, 21 km SSW of Orange, NSW | 11,000 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|---|
| Gold--Continued: | kilograms | MIM Holdings Ltd., 51%, and Westpac Banking Corp., 49% | Ernest Henry open pit copper-gold mine, 35 km NE of Cloncurry, QLD | 3,000 |
| Do. | do. | Kalgoorlie Consolidated Gold Mines Pty. Ltd., 100% | Gidji Roaster gold smelter, Kalgoorlie, WA | 24,300 |
| Do. | do. | Normandy NFM Ltd., 100% | Granites-Dead Bullock Soak open pit/ underground gold mine, 550 km NW of Alice Springs, in the Tanami Desert, NT | 7,000 |
| Do. | do. | Placer Dome Asia Pacific Ltd., manager (Placer Dome Inc., 60%, and Delta Gold Ltd., 40%) | Granny Smith open pit gold mine (includes Sunrise and Wallaby), 20 km S of Laverton, WA | 16,000 |
| Do. | do. | AuironGold Ltd., 100% | Henty underground gold-silver mine, 30 km N of Queenstown, TAS | 3,700 |
| Do. | do. | Thalanga Copper Mines Pty. Ltd., 70%, and BML Holdings Pty. Ltd., 30% | Highway-Reward open pit and underground copper mine, 37 km S of Charters Towers, QLD | 1,000 |
| Do. | do. | New England Antimony Mines NL, 100% | Hillgrove underground antimony-gold mine, 25 km E of Armidale, NSW | 1,000 |
| Do. | do. | Newmont Yandal Operations Ltd., 100% | Jundee-Nimary open pit/underground gold mine, 45 km NE of Wiluna, WA | 12,000 |
| Do. | do. | AuironGold Ltd., 100% | Kanowna Belle underground gold mine, 18 km NE of Kalgoorlie, WA | 7,000 |
| Do. | do. | Barrack Gold Corp., 100% | Lawlers underground gold mine, 30 km SW of Leinster, WA | 3,000 |
| Do. | do. | Sons of Gwalia Ltd., 100% | Marvel Loch Operations open pit/ underground gold mines approximately 30 km SE of Southern Cross, WA | 10,000 |
| Do. | do. | Saint Barbara Mines Ltd., 100% | Meekatharra open pit/underground gold mine, 20 km S of Meekatharra, WA | 4,000 |
| Do. | do. | Copper Mines of Tasmania Pty. Ltd., 100% | Mount Lyell underground copper-gold mine, 2 km NE of Queenstown, TAS | 1,000 |
| Do. | do. | Harmony Gold Mining Co. Ltd., 100% | Mount Magnet open pit/underground gold mine (includes Hill 50 and Star), 2 km from Mount Magnet, WA | 8,500 |
| Do. | do. | Australian Gold Refineries, 100% (State of WA agency) | Newburn gold refinery, WA | 246,000 |
| Do. | do. | Croesus Mining NL, 100% | Norseman underground gold mine at Norseman, WA | 3,700 |
| Do. | do. | Rio Tinto Ltd., 80%; Sumitomo Metal Mining Oceania Pty. Ltd., 13.3%; SC Mineral Resources Pty. Ltd., 6.7% | Northparkes open pit/underground copper-gold mine, 27 km N of Parkes, NSW | 155,000 |
| Do. | do. | Placer Dome Asia Pacific Ltd., 100% | Osborne underground copper-gold mine, | 1,500 |
| Do. | do. | WMC Olympic Dam Operations Pty. Ltd., 100% | Olympic Dam underground copper-silver-gold-uranium mine at Roxby Downs, 80 km N of Woomera, SA | 1,500 |
| Do. | do. | MIM Holdings Ltd., 100% | Pacific precious metals refinery, NSW | 1,900 |
| Do. | do. | Paddington Gold Pty. Ltd., 100% | Paddington open pit gold-silver mine, 35 km NW of Kalgoorlie, WA | 2,800 |
| Do. | do. | Newmont Pajingo Pty. Ltd., 100% | Pajingo underground gold mine (includes Vera-Nancy), 60 km SSE of Charters Towers, QLD | 6,400 |
| Do. | do. | Peak Gold Mines Pty. Ltd., 100% | Peak underground gold-zinc-lead-copper-silver underground mine (includes New Cobar, New Occidental, and Perseverance), 8 km S of Cobar, NSW | 350,000 |
| Do. | do. | Alkane Exploration Ltd., 100% | Peak Hill open pit gold mine, 50 km N of Parkes, NSW | 700,000 |
| Do. | do. | Australian Gold Refineries, 100% (State of WA agency) | Perth Refinery (Newburn), WA | 95,000 |
| Do. | do. | Homestake Mining Co., 100% | Plutonic open pit/underground gold mine, (includes Freshwater), 180 km NE of Meekatharra, WA | 8,000 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|---|
| Gold--Continued: | kilograms | Carpentaria Gold Pty. Ltd., 50.1%, and Haoma Mining NL, 49.9% | Ravenswood open pit mine (includes Nolans, Sarsfield, and Mount Wright), 100 km S of Townsville, QLD | 3,000 |
| Do. | do. | Newcrest Mining Ltd., 100% | Ridgeway underground gold-copper mine, 25 km S of Orange, NSW | 10,800 |
| Do. | do. | Pasminco Ltd., 100% | Rosebery underground zinc-lead-silver-copper-gold mine, 35 km N of Queenstown, TAS | 1,000 |
| Do. | do. | Gold Fields Ltd., 100% | Saint Ives open pit/underground gold mine, 75 km SSE of Kalgoorlie, WA | 15,000 |
| Do. | do. | Selwyn Mines Ltd., 100% | Selwyn underground copper-gold mine, 150 km SE of Mount Isa, QLD | 700 |
| Do. | do. | Sons of Gwalia Ltd., 100% | Sons of Gwalia open pit/underground gold mine (includes Red October, Harlech, McGraths, Kailis, and Anchor), 5 km W of Leonora, WA | 6,000 |
| Do. | do. | MPI Gold Pty. Ltd., 50%, and Pittston Mineral Ventures of Australia Pty. Ltd., 50% | Stawell underground gold mine, 240 km W of Melbourne, VIC | 3,000 |
| Do. | do. | AngloGold Ltd., 100% | Sunrise Dam open pit mine gold (includes Cleo), 55 km S of Laverton, WA | 8,000 |
| Do. | do. | Kalgoorlie Consolidated Gold Mines Pty. Ltd., manager (Barrick Gold Corp., 50%, and Newmont Mining Ltd., 50%) | Super Pit open pit gold mine (includes Fimiston), SE corner of the Kalgoorlie-Boulder Township, WA | 20,000 |
| Do. | do. | Otter Gold Mines Ltd., 60%, and AngloGold Ltd., 40% | Tanami open pit gold mine (includes Central Desert Joint Venture), 650 km NW of Alice Springs, NT | 2,800 |
| Do. | do. | PacMin Mining Corp., 100% | Tarmoola open pit gold mine, 29 km NW of Leonora, WA | 6,500 |
| Do. | do. | AngloGold Ltd., 100% | Union Reefs open pit gold mine, 12 km N of Pine Creek, NT | 3,000 |
| Do. | do. | Wiluna Mines Ltd., 100% | Wiluna open pit/underground gold mine, 7 km S of Wiluna, WA | 3,300 |
| Gypsum | | Gypsum Resources Australia Pty. Ltd., 100% | Lake MacDonnell open pit gypsum mine, near Point Thevenard, SA | 1,400 |
| Do. | | Dampier Salt Ltd., 100% | Lake MacLeod salt and gypsum solar evaporation ponds, 65 km N of Carnarvon, WA | 900 |
| Iron ore | | Hamersley Iron Pty. Ltd., 60%, and China Iron and Steel Industry & Trade Group Corp. (a Chinese Government agency), 40% | Channar open pit iron ore mine, 70 km S of Tom Price, WA | 11,000 |
| Do. | | BHP Billiton Ltd., 100% | Cockatoo Island open pit iron ore mine, 130 km NNE of Derby, WA | 1,050 |
| Do. | | Hamersley Iron Pty. Ltd., 100% | Hamersley Operations (includes Brockman No. 2, Marandoo, Mount Tom Price, Nammuldi, Paraburdoo, and Yandicoogina open pit iron ore mines), 30 km to 85 km NE, NW, and S of Tom Price, WA | 60,000 |
| Do. | | BHP Minerals Pty. Ltd., 100% | Jimblebar open pit iron ore mine, 40 km E of Newman, WA | 6,000 |
| Do. | | Portman Ltd., 100% | Koolyanobbing Central open pit iron ore mine, 50 km NNE of Southern Cross, WA | 3,000 |
| Do. | | BHP Iron Ore Pty. Ltd., 85%, manager; CI Minerals Australia Pty. Ltd., 8%; Mitsui Iron Ore Corp. Pty. Ltd., 7% | Mount Goldsworthy open pit iron ore mine (includes Yarrie), 180 km E of Port Hedland, WA | 8,000 |
| Do. | | Imdex Ltd., 100% | Mount Gould open pit iron ore mine, 160 km W of Meekatharra, WA | 6,000 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|
| Iron ore--Continued | BHP Iron Ore Pty. Ltd., 85%; Mitsui Itochu Iron Pty. Ltd., 10%; CI Minerals Australia Pty. Ltd., 5% | Mount Newman (includes Mount Whaleback, Orebody 23-25, Orebody 29, and Orebody 30-35) open pit iron ore mines, within 13 km of Newman, WA | 25,000 |
| Do. | Robe River Iron Associates, manager (Rio Tinto Ltd., 53%; Mitsui & Co. (Australia). Ltd., 33%; Nippon Steel Australia Pty. Ltd., 10.5%; Sumitomo Metal Australia Pty. Ltd., 3.5%) | Pannawonica (includes Mesa J) open pit iron ore mine, 130 km SSW of Dampier WA | 31,000 |
| Do. | ABM Mining Ltd., 100% | Savage River open pit iron ore mine (includes Long Plains), 100 km SW of Burnie, TAS | 2,400 |
| Do. | OneSteel Ltd., 100% | Whyalla open pit iron ore mines, 270 km NW of Adelaide, SA | 2,600 |
| Do. | BHP Minerals Pty. Ltd., 55%; Pilbara Iron Pty. Ltd., 30%; CI Minerals Australia Pty. Ltd., 8%; Mitsui Iron Ore Corp. Pty. Ltd., 7% | Yandi open pit iron ore mine, 92 km N of Newman, WA | 35,000 |
| Kaolin | Osterfield Pty. Ltd., 100% | Axedale Clays open pit kaolin mine, 18 km E of Bendigo, VIC | 50 |
| Do. | Queensland Kaolin Pty. Ltd., 96.6%, and private interests, 3.4% | Skardon River open pit kaolin mine, 85 km N of Weipa, QLD | 150 |
| Lead | Perilya Ltd., 100% | Broken Hill underground silver-zinc-lead mine at Broken Hill, NSW | 90 |
| Do. | BHP Minerals Ltd., 100% | Cannington underground silver-lead-zinc mine, 200 km SE of Mount Isa, QLD | 265 |
| Do. | Pasminco Century Mine Ltd., 100% | Century open pit zinc-silver-lead mine, 250 km NW of Mount Isa, QLD | 70 |
| Do. | Pasminco Ltd., 100% | Cockle Creek lead smelter, NSW | 35 |
| Do. | do. | Elura underground zinc-silver-lead mine, 40 km NW of Cobar, NSW | 45 |
| Do. | Western Metals Ltd., 100% | Hellyer underground zinc-lead-copper-silver mine, 80 km SSW of Burnie, TAS | 44 |
| Do. | do. | MIM lead smelter, QLD | 160 |
| Do. | MIM Holdings Ltd., 100% | Mount Isa underground copper-lead-zinc-silver mine (also includes enterprise, George Fisher, and Hilton mines) at Mount Isa, QLD | 150 |
| Do. | do. | Mount Isa Smelter, QLD | 240 |
| Do. | Peak Gold Mines Pty. Ltd., 100% | Peak underground gold-zinc-lead-copper-silver underground mine (includes New Cobar, New Occidental, and Perseverance), 8 km S of Cobar, NSW | 5 |
| Do. | Pasminco Ltd., 100% | Port Pirie lead smelter, SA | 250 |
| Do. | do. | Rosebery underground zinc-lead-silver-copper-gold mine, 35 km N of Queenstown, TAS | 23 |
| Magnesite | Australian Magnesium Corp. Ltd., 100% | Kunwarara open pit magnesite mine (includes Marlborough), 70 km NW of Rockhampton, QLD | 3,000 |
| Manganese | Groote Eylandt Mining Co. Pty. Ltd., 100% | Groote Eylandt open pit manganese mine at Groote Eylandt, NT | 2,400 |
| Do. | Pilbara Manganese Pty. Ltd., 100% | Woodie Woodie open pit manganese mine (includes Bells and East Pilbara leases), 400 SE of Port Hedland, WA | 350 |
| Manganese alloys | Tasmanian Electro Metallurgical Co. Pty. Ltd., 100% | Bell Bay Smelter near Launceton, TAS | 260 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|---|
| Mineral sands | | Iluka Resources Ltd., 100% | Eneabba open pit heavy-mineral sands mine, 260 km N of Perth, WA | NA |
| Do. | | Mineral Deposits Ltd., 100% | Hawks Nest heavy-mineral sands dredge, 50 km NE of Newcastle, NSW | NA |
| Do. | | Cable Sands (WA) Pty. Ltd., 100% | Jangardup heavy-mineral sands dredge, 50 km S of Nannup, WA | NA |
| Do. | | Iluka Resources Ltd., 100% | North Capel open pit heavy-mineral sands mine, 7 km N of Capel, WA | NA |
| Do. | | Stradbroke Rutile Pty. Ltd., 100% | North Stradbroke Island heavy-mineral sands dredge, 35 km E of Brisbane, QLD | NA |
| Do. | | KMCC Western Australia Pty. Ltd., 50%, and Ticor Resources Pty. Ltd., 50% | Tiwest Joint Venture heavy-mineral sands dredge, 180 km N of Perth, WA | NA |
| Do. | | Murray Basin Titanium Pty. Ltd., 100% | Wemen heavy-mineral sands dredge, 80 km SE of Mildura, VIC | NA |
| Nickel | | Outokumpu Exploration Ventures Pty. Ltd., 100% | Black Swan underground nickel mine (includes Silver Swan), 53 km NE of Kalgoorlie, WA | 22 |
| Do. | | Preston Resources Ltd., 100% | Bulong open pit nickel-cobalt mine, 30 km E of Kalgoorlie, WA | 9 |
| Do. | | OM Group Inc., 100% | Cawse open pit nickel-cobalt mine, 50 km NW of Kalgoorlie, WA | 9 |
| Do. | | Jubilee Mines NL, 100% | Cosmos open pit nickel mine, 50 km N of Leinster, WA | 80 |
| Do. | | WMC Ltd., 100% | Kalgoorlie nickel smelter, Kalgoorlie, WA | 100 |
| Do. | | do. | Kambalda underground nickel mines, 25 km N of Kambalda to 10 km S of Widgiemooltha, WA | 35 |
| Do. | | do. | Kwinana nickel refinery, Kwinana, WA | 67 |
| Do. | | do. | Leinster open pit/underground nickel mines, 10 km N of Leinster, WA | 44 |
| Do. | | Mincor Resources NL, 76%; Clough Mining Pty. Ltd., 12%; and Donegal Resources Pty. Ltd., 12% | Miitel underground nickel mine (includes Redross and Mariners), 70 km S of Kambalda, WA | 10 |
| Do. | | WMC Ltd., 100% | Mount Keith open pit nickel mine (includes Cliffs and Yakabindie), 70 km SSE of Wiluna, WA | 50 |
| Do. | | Anaconda Nickel Ltd., 60%, and Glencore International AG, 40% | Murrin Murrin nickel refinery, Murrin Murrin, WA | 45 |
| Do. | | do. | Murrin Murrin open pit nickel-cobalt mine, 60 km E of Leonora, WA | 100 |
| Do. | | Australian Nickel Mines NL, 100% | Radio Hill underground nickel-cobalt mine, 100 km ESE of Karratha, WA | 4 |
| Do. | | QNI Pty. Ltd., 100% | Yabulu nickel-cobalt refinery, Townsville, QLD | 30 |
| Opal | | Many small producers | Andamooka and Coober Pedy areas, SA; Lightning Ridge area, NSW | NA |
| Petroleum | thousand 42-gallon barrels per day | Exxon Mobil Corporation, 100% | Altona Refinery, VIC | 120 |
| Do. | do. | BP Amoco Refinery (Bulwer Island) Pty. Ltd., 100% | Bulwer Island Refinery, QLD | 69.3 |
| Do. | do. | Shell Refining (Australia) Pty. Ltd., 100% | Clyde Refinery, NSW | 85 |
| Do. | do. | do. | Geelong Refinery, VIC | 110 |
| Do. | do. | ChevronTexaco Corp., 100% | Kurnell Refinery, NSW | 114 |
| Do. | do. | BP Amoco Refinery (Kwinana) Pty. Ltd., 100% | Kwinana Refinery, WA | 138 |
| Do. | do. | ChevronTexaco Corp., 100% | Lytton Refinery, QLD | 106 |
| Do. | do. | Exxon Mobil Corporation, 100% | Port Stanvac Refinery, SA | 69 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|---|
| Phosphate rock | | WMC Fertilizers Ltd., 100% | Phosphate Hill-Duchess open pit phosphate mine, 140 km NW of Mount Isa, QLD | 2,200 |
| Salt | | Dampier Salt Ltd., 100% | Dampier solar evaporation salt pans, 65 km N of Carnarvon, WA | 5,000 |
| Do. | | do. | Lake MacLeod solar salt and gypsum evaporation pans, 65 km N of Carnarvon, WA | 900 |
| Do. | | do. | Port Hedland solar salt fields, at Port Hedland, WA | 3,000 |
| Silica | | Itochu Corp., 50%, and Tochu Corp., 50% | Kemerton silica sands dredge, 25 km NE of Bunbury, WA | 450 |
| Silver | kilograms | Perilya Ltd., 100% | Broken Hill underground silver-zinc-lead mine at Broken Hill, NSW | 81,200 |
| Do. | do. | BHP Minerals Ltd., 100% | Cannington underground silver-lead-zinc mine, 200 km SE of Mount Isa, QLD | 700,000 |
| Do. | do. | Pasminco Century Mine Ltd., 100% | Century open pit zinc-silver-lead mine, 250 km NW of Mount Isa, QLD | 3,000 |
| Do. | do. | Pasminco Ltd., 100% | Cockle Creek silver smelter, NSW | 85,000 |
| Do. | do. | do. | Elura underground zinc-silver-lead mine, 40 km NW of Cobar, NSW | 35,000 |
| Do. | do. | Western Metals Ltd., 100% | Hellyer underground zinc-lead-copper-silver mine, 80 km SSW of Burnie, TAS | 60,000 |
| Do. | do. | AuironGold Ltd., 100% | Henty underground gold-silver mine, 30 km N of Queenstown, TAS | 1,100 |
| Do. | do. | Thalanga Copper Mines Pty. Ltd., 70%, and BML Holdings Pty. Ltd., 30% | Highway-Reward open pit and underground copper mine, 37 km S of Charters Towers, QLD | 1,000 |
| Do. | do. | MIM Holdings Ltd., 100% | Mount Isa underground copper-lead-zinc-silver mine (also includes enterprise, George Fisher, and Hilton mines) at Mount Isa, QLD | 375,000 |
| Do. | do. | Australian Gold Refineries, 100% (State of WA agency) | Newburn silver refinery, WA | 81,000 |
| Do. | do. | WMC Olympic Dam Operations Pty. Ltd., 100% | Olympic Dam underground copper-silver-gold-uranium mine at Roxby Downs, 80 km N of Woomera, SA | 12,900 |
| Do. | do. | Paddington Gold Pty. Ltd., 100% | Paddington open pit gold-silver mine, 35 km NW of Kalgoorlie, WA | 500 |
| Do. | do. | Peak Gold Mines Pty. Ltd., 100% | Peak underground gold-zinc-lead-copper-silver underground mine (includes New Cobar, New Occidental, and Perseverance), 8 km S of Cobar, NSW | 6,000 |
| Do. | do. | Pasminco Ltd., 100% | Port Pirie silver smelter, SA | 450,000 |
| Do. | do. | do. | Rosebery underground zinc-lead-silver-copper-gold mine, 35 km N of Queenstown, TAS | 35,000 |
| Spodumene | do. | Gwalia Consolidated Ltd., 100% | Greenbushes open pit/underground tantalite-spodumene mine, 70 km SE of Bunbury, WA | 100 |
| Steel | | BHP Steel Pty. Ltd., 100% | Newcastle steelworks, NSW | 1,800 |
| Do. | | do. | Port Kembla steelworks, NSW | 4,000 |
| Do. | | do. | Sydney (Rooty Hill) minimill, NSW | 250 |
| Do. | | do. | Whyalla steelworks, SA | 1,200 |
| Talc | | Luzenac Australia Pty. Ltd., 100% | Three Springs open pit talc mine, 330 km N of Perth, WA | 200 |

See footnotes at end of table.

TABLE 2--Continued
AUSTRALIA: 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[1,2,3] | Annual capacity[e] |
|---|---|---|---|---|
| Tantalum, tantalite, $Ta_2O_5$ | pounds | Gwalia Consolidated Ltd., 100% | Greenbushes open pit/underground tantalite-spodumene mine, 70 km SE of Bunbury, WA | 600,000 |
| Do. | do. | do. | Wodgina open pit tantalite mine, 100 km S of Port Hedland, WA | 500,000 |
| Tin, banch (in situ) | cubic meters | Telminex NL, 100% | Ardlethan alluvial tin mine, 90 km NW of Wagga Wagga, NSW | 500,000 |
| Do. | | Sons of Gwalia Ltd., 100% | Greenbushes Smelter, WA | 1 |
| Do. | | Renison Bell Ltd., 100% | Renison Bell underground tin mine, 136 km S of Burnie, TAS | 13 |
| Uranium, $U_3O_8$ | tons | Heathgate Resources Pty. Ltd., 100% | Beverley in situ leach uranium operation, 300 km NE of Port Augusta, SA | 900 |
| Do. | do. | WMC Olympic Dam Operations Pty. Ltd., 100% | Olympic Dam underground copper-silver-gold-uranium mine at Roxby Downs, 80 km N of Woomera, SA | 1,500 |
| Do. | do. | Energy Resources of Australia Ltd., 100% | Ranger open pit uranium mine, 230 km E of Darwin, NT | 4,500 |
| Vanadium, $V_2O_5$ | do. | Xstrata Windimurra Pty. Ltd., 100% | Windimurra open pit mine vanadium, 100 km ESE of Mount Magnet, WA | 8 |
| Zinc | | Perilya Ltd., 100% | Broken Hill underground silver-zinc-lead mine at Broken Hill, NSW | 360 |
| Do. | | BHP Minerals Ltd., 100% | Cannington underground silver-lead-zinc mine, 200 km SE of Mount Isa, QLD | 100 |
| Do. | | Pasminco Century Mine Ltd., 100% | Century open pit zinc-silver-lead mine, 250 km NW of Mount Isa, QLD | 500 |
| Do. | | Pasminco Ltd., 100% | Cockle Creek zinc smelter, NSW | 90 |
| Do. | | do. | Elura underground zinc-silver-lead mine, 40 km NW of Cobar, NSW | 125 |
| Do. | | Murchison Zinc Co. Pty. Ltd., 100% | Golden Grove underground zinc-copper mine (includes Gossan Hill and Scuddles), 225 km E of Geraldton, WA | 150 |
| Do. | | Western Metals Ltd., 100% | Hellyer underground zinc-lead-copper-silver mine, 80 km SSW of Burnie, TAS | 130 |
| Do. | | MIM Holdings Ltd., 100% | Mount Isa underground copper-lead-zinc-silver mine (also includes enterprise, George Fisher, and Hilton mines) at Mount Isa, QLD | 175 |
| Do. | | Peak Gold Mines Pty. Ltd., 100% | Peak underground gold-zinc-lead-copper-silver underground mine (includes New Cobar, New Occidental, and Perseverance), 8 km S of Cobar, NSW | 8 |
| Do. | | Pasminco Ltd., 100% | Port Pirie zinc smelter, SA | 40 |
| Do. | | do. | Ridson zinc refinery, Hobart, TAS | 230 |
| Do. | | do. | Rosebery underground zinc-lead-silver-copper-gold mine, 35 km N of Queenstown, TAS | 100 |
| Do. | | Sun Metals Corp. Pty. Ltd., 100% | Sun Metals zinc refinery, Stuart, QLD | 170 |

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Australian State and Territory abbreviations: NSW--New South Wales; NT--Northern Territory; QLD--Queensland; SA--South Australia; TAS--Tasmania; VIC--Victoria; WA--Western Australia.

[2]Bearing abbreviations: N--north; NNE--north-northeast; NE--northeast; E--east; SE--southeast; SSE--south-southeast; S--south; SSW--south-southwest; SW--southwest; WSW--west-southwest; W--west; WNW--west-northwest; NW--Northwest; NNW--north-northwest.

[3]Abbreviation(s) used for unit(s) of measure in this table include the following: km--kilometer.

[4]Care and maintenance; expansion project development decision pending.