



2005 Minerals Yearbook

UNITED KINGDOM

THE MINERAL INDUSTRY OF THE UNITED KINGDOM

By Harold R. Newman

The United Kingdom's mineral resources were historically important; however, most of these resources were either exhausted or being produced in small quantities. The country had limited potential for the occurrence of precious and base metals; however, the Scotland region has shown potential to host some small gold and silver deposits. Metal processing remained the basis of an important mineral industry sector and raw materials were imported to satisfy its metallurgical needs. Industrial minerals formed the bulk of raw material production, and the chalk, clay, fluorspar, gypsum, potash, salt, and sand and gravel operations continued in 2005. The United Kingdom was the leading producer of natural gas and petroleum in the European Union (EU).

The United Kingdom, with a population of 60.6 million, had a land area of 244,800 square kilometers (km²), which includes Rockall and Shetland Islands, and Northern Ireland. In 2005, the gross domestic product (GDP) based on purchasing power parity was \$1.8 trillion, and the per capita income, which is based on purchasing power parity, was \$30,470. The inflation rate was 2.1% and the unemployment rate was 4.8%, which was one of the lowest in Europe (International Monetary Fund, 2006^{§1}).

The United Kingdom joined the EU in 1973, but had not decided at yearend 2005 whether to adopt the European Monetary Union's single currency, the euro (€) (U.S. Central Intelligence Agency, 2006[§]).

Government Policies and Programs

In 2005, the 1971 Minerals Act, as amended during the years, continued as the statute that governed the development and working of mineral deposits. Minerals are defined in section 209 of the 1971 Act to include all minerals and materials in or under the land of a kind ordinarily worked for removal by underground or surface workings; it does not, however, include peat cut for purposes other than for sale. Mineral development is specifically addressed in the Town and Country Planning (Minerals) Regulations, 1971 and the Town and Country Planning (Minerals) Act, 1981. Mineral rights to mineral fuels, such as coal, petroleum, and uranium, belong to the state. The Coal Authority is authorized to license open pit and underground mines to the private sector subject to restrictions on their size and the payment of a royalty on the amount of coal produced.

Most other mineral rights in Great Britain are privately owned with the exceptions of gold and silver that are vested in the Royal Family. A different situation regarding mineral rights applies to Northern Ireland where, under the Mineral Development Act (Northern Ireland), 1969, the rights to work minerals and to license others to do so are vested in the state.

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

Environmental Issues

Environmental conditions in the United Kingdom continued to improve with the reduction of carbon dioxide and sulfur dioxide emissions owing to the transition away from coal-fired powerplants and the reduction in the use of coal for residential heating. The Government has ratified the Kyoto Protocol; however, the EU decided to meet its requirements under the Protocol as a whole, rather than as individual signatories, with each member state given a different emissions target by the EU. Under the EU plan, the United Kingdom must reduce its carbon dioxide emissions by 12.5% during the 2008-12 commitment period (U.S. Energy Information Administration, 2006a[§]).

Production

The Department of Trade and Industry (DTI) continued to ensure a supply of minerals for the country's industry and to oversee mineral activities. The areas of responsibility were all nonfuel minerals, which included all metallic ores and such industrial minerals as barite, china clay (kaolin), fluorspar, high-grade limestone, potash, salt, and silica sand. The industrial minerals sector also included aggregates, brick and brick clay, cement and its raw materials, dimension stone, gypsum for plaster, and sand and gravel used in the construction industry. The DTI was also responsible for mineral fuels, which included coal, natural gas, and petroleum, and for issuing licenses for the exploration, appraisal, and production of natural gas and petroleum. The production of mineral commodities is listed in table 1.

State and privately owned corporations produced minerals and mineral-base products. State ownership was significantly reduced in the mineral industry (table 2).

Trade

In 2005, the United Kingdom was the world's sixth largest economy based on the GDP at purchasing power parity and was a trading nation with a generally free and open market. The country had surplus trade balances in chemicals, metal articles, and mineral products. Total exports were \$373 billion and total imports were \$448 billion in 2005. Principal export destinations were the United States (14.9%), Germany (10.7%), France (8.7%), Ireland (7.3%), and the Netherlands (5.5%). Principal import sources were Germany, 12.9%; the United States, 8.7%; France, 7.2%; the Netherlands, 6.6%; and China, 4.9% (U.S. Central Intelligence Agency, 2006[§]).

Commodity Review

Metals

Aluminum.—Four primary aluminum smelters were located in the United Kingdom; three were owned and operated by

British Alcan Aluminium Ltd. and the fourth smelter was operated by Anglesey Aluminium Ltd. All the aluminum smelters depended on imported alumina for feedstock. There were several small secondary smelters.

Copper.—Alba Mineral Resources plc continued with its verification drilling program on its Arthrath copper-nickel-platinum group project in Aberdeenshire, Scotland. Drilling was focused on the strike length of a 10-kilometer (km)-long east-west-trending mafic intrusion which was up to 600 meters (m) wide in places. Extensive near-surface disseminated magmatic copper-nickel sulfide mineralization was intersected from bedrock with a thickness of 170.3 m with 109.7 m grading 0.29% copper, 0.26% nickel, and 2.3 grams per metric ton (g/t) silver including 7.8 m grading 0.54% copper, 0.51% nickel, and 4.1 g/t silver (Alba Mineral Resources plc, 2005§).

Gold.—Cambridge Mineral Resources plc, Falkland Island Holding plc, and Global Petroleum Ltd. formed the joint-venture Falkland Islands-based company, Falkland Gold and Minerals Ltd. (FGML), through which onshore exploration for gold was performed. FGML held the only license permitting such exploration. Drilling activity began in March 2005 and by the end of September 2005 a total of 6,000 m of core had been drilled testing seven of the originally identified nine targets. Indications of sub-economic gold resources were identified in three intersections, 0.19 g/t gold over 0.75 m; 0.19 g/t gold over 1 m; and 0.18 g/t gold over 1 m. There was one subeconomic intersection of platinum (0.17 g/t), and palladium (0.14 g/t). There was a silver showing of 3.5 g/t over a 1.3-m intersection in a doleritic intrusion. The gold, palladium, and platinum anomalies were associated with carbonaceous shale and mudstones in an area that appeared to be a structurally controlled fault wedge (Falkland Islands Company, The, 2005§).

Tournigan Gold Corp. of Canada was developing its Curraghinalt gold project in Northern Ireland. Infill diamond drilling of the east Curraghinalt vein extension was started.

According to Tournigan, Curraghinalt was a high-grade underground deposit and consisted of a series of subparallel closely spaced mesothermal quartz-sulfide veins localized between a set of east-west striking shear zones. The deposit was estimated to host an inferred resource of 81,000 kilograms of gold grading 15.45 g/t in 527,700 metric tons (t) of ore. The design of the next step of exploration was completed, and Tournigan was anticipating that this phase of exploration would upgrade the existing inferred resource category to measured and indicated categories (Tournigan Gold Corp., 2005§).

Galantas Gold Corp., previously known as European Gold Resources, began the startup for early stage gold production from its Omagh project in County Tyrone, Northern Ireland. Galantas was building Northern Ireland's first gold mine. Production was scheduled for early 2006 and was slated to initially yield about 930 kilograms per year of gold from an open pit operation (Resource Investor, 2005§).

Iron and Steel.—The Corus Group opened a new continuous slab caster at its Port Talbot steelworks in South Wales. The caster increased the plant's annual steel slab output by 25% and gave it the capability to produce about 5 million metric tons per year (Mt/yr). Constructed at a capital cost of

£79 million² (\$146 million), the investment was expected to improve the competitiveness of Corus' carbon steel assets. The investment, part of a wider capital program, was made up of the new continuous caster, improved secondary steelmaking, and increased capacity utilization at Blast Furnace 5. Crude steel production would be focused at three sites instead of five—strip products at Port Talbot, engineering steels at Rotherham, and long products at Scunthorpe (Corus Group, 2005b§).

Corus announced a £130 million (\$242 million) major investment at its Scunthorpe steel works. The investment would strengthen Corus' manufacturing capability and competitiveness in rail, structural sections, and wire rod. The investment included installing a new steel casting machine and intermediate rolling mill; establishing a rail production facility to offer longer rail lengths up to 120 m; and developing the rod and section mills to enhance rolling capacity, flexibility, and quality. Scunthorpe was one of its main steelmaking sites (Corus Group, 2005a§).

Platinum-Group Metals.—In 2005, Agricola Resources plc continued with platinum-group metals exploration on its Sandison property, which covers about 8 square miles on the Island of Unst in the Shetland Islands off the coast of Scotland. An extension of geochemical soil sampling was completed, and several strongly anomalous platinum and palladium sites were reported along with minor gold anomalies. Trenching and bedrock sampling studies were continuing in the area, which was located south of Nikka Vord (Agricola Resources plc, 2006§).

Industrial Minerals

Barite.—The United Kingdom remained a major producer and consumer of barite to serve the North Sea drilling industry. The major producer of barite was M-I Drilling Fluids (UK) Ltd., which operated the underground Foss Mine near Aberfeldy in Perthshire and accounted for more than 80% of total production in 2005. The output was mainly used for drilling fluids (British Geological Survey, 2006a).

Cement.—Cement firms won approval to burn alternate fuels at sites in Wales. The Environment Agency granted Castle Cement Ltd.'s Padeswood kiln number 4 a Pollution Prevention and Control permit after 3 years of consultation. Castle replaced its three existing kilns in 2005. Castle would produce 750,000 t/yr by using energy produced from shredded tires; Cemfuel made from solvents, paints, and waste oil; and Profuel made from paper, plastics, and textiles. Lafarge Cement UK started a 9-month trial to burn meat and bone meal at its Aberthaw plant, which would derive 30% of its heat from animal remains (Contract Journal, 2005§).

Lafarge was the United Kingdom's leading cement manufacturer and supplied about 50% of the market. Lafarge faced the prospect of substantial compensation claims after discovering that it had supplied contaminated cement used in houses, roads, and small building projects across southwest

²Where necessary, values have been converted from United Kingdom pounds (£) to U.S. dollars (\$) at a rate of £1.00=\$1.86.

England that could crumble and crack during the next 15 years as a result of alkali silica reaction. Although none of the buildings were considered at risk of serious structural failure, they may have to be monitored for many years and repairs carried out if necessary. The cost of monitoring and repairs may have to be borne by Lafarge (Business Day, 2005§).

Clay and Shale.—The United Kingdom was a leading world producer and exporter of ball clay. WBB Minerals Ltd. was the country's leading producer of ball clay. Their operations work the ball clay deposits of the Bovey and the Petrockstowe Basins in Devon. The other producer of ball clay was the Imerys Group, which had workings in the Bovey and the Wareham Basins in Dorset. Imerys ceased production in the Petrockstowe Basin at yearend 2004 because of the high costs of extraction (British Geological Survey, 2006c).

The Imerys Group was a leading producer of kaolin (china clay) in the United Kingdom and a major producer worldwide. Imerys' operation of its open pit mines in the St. Austell area in Cornwall accounted for more than 85% of total sales. WBB also produced kaolin from two sites on the Dartmoor granite (British Geological Survey, 2006b).

Fluorspar.—Glebe Mines Ltd. was the only domestic producer of fluorspar (calcium fluorite) and supplied the two United Kingdom fluorochemical producers with acid grade fluorspar. Glebe's operations were based on surface extraction and processing of 250,000 t/yr of mineral bearing ores. The minerals are hosted by Carboniferous limestone in fissure-fill and replacement Mississippi Valley-type deposits ranging in size from 5,000 to 1,000,000 t. Glebe operated the Cavendish Mill near Stoney Middleton for the supply of acid grade fluorspar together with byproduct barite and lead concentrate (Glebe Mines Ltd., 2005§).

Gypsum.—British Gypsum Ltd. (a subsidiary of BPB Industries plc.) was the major producer of gypsum in the United Kingdom. The company had mines in Cumbria, Leicestershire, Nottinghamshire, Staffordshire, and Sussex that produced about 1.5 Mt/yr of gypsum. With few exceptions, this material went to supply the domestic market (British Gypsum Ltd., 2005b§).

British Gypsum announced that it would construct a third plaster manufacturing plant. The £50 million (\$93 million) facility would manufacture plaster from natural gypsum rock that is extracted and processed on the site from an existing mine, which would be modernized and reequipped as part of the project. The facility was scheduled to be completed by yearend 2006 (British Gypsum Ltd., 2005a§).

Potash and Salt.—Cleveland Potash Ltd. (CPL), which was the only potash producer in the United Kingdom, operated the Boulby Mine in Yorkshire. The potash ore was a mixture of sodium and potassium chloride crystals with occasional inclusions of insoluble material, usually clays. CPL also mined rock salt as a coproduct from an underlying seam in the Boulby Mine. The potash products were used for fertilizer, as well as for glassmaking and applications in the chemicals and pharmaceutical industries. The salt products met a variety of needs from road maintenance to sugar beet cultivation (Cleveland Potash Ltd., 2005§).

Silica Sand.—WBB Minerals Ltd. was the leading United Kingdom silica sand company and its operations accounted

for more than one-half of the market. Their sand quarrying operation was focused on providing a wide range of high purity silica and cristoballite sands for flat and container glass, ceramics, investment casting, and fillers and extenders. WBB also produced silica sands and resin-coated sands for the foundry and the natural gas and petroleum sectors (WBB Minerals Ltd., 2005§).

Mineral Fuels and Other Sources of Energy

Coal.—Most of the coal mining industry was owned by UK Coal plc (formerly RJB Mining plc), which was the leading coal mining company in the United Kingdom and the leading independent coal producer in the EU in terms of production. Of the 17 licenses for underground mining, 7 were held by UK Coal. The 41 surface mine sites were mined by 16 operators. Scottish Coal plc held the largest number of surface mine licenses with 14, all in Scotland. Coal provided about 41% of the country's raw energy needs. This equated to 52 Mt/yr of coal, which made coal the leading fuel source used for power generation. Coal production has been declining steadily for the past 10 years (British Geological Survey, 2006c).

Natural Gas and Petroleum.—The United Kingdom's 23d Oil and Gas Licensing Round (OGLR) led to 99 companies securing a total of 152 production licenses; the highest since the 4th OGLR of 1972. If all offers are accepted, there will be 24 new oil companies participating in exploration and production (Offshore, 2005).

The North Sea holds Europe's largest natural gas and petroleum reserves and was one of the world's key producing regions not in the Organization of the Petroleum Exporting Countries. As of January 2006, the United Kingdom's estimated proven crude oil reserves were 4.0 billion barrels, which was the largest within the EU, and located mostly offshore on the United Kingdom Continental Shelf. Most of the country's production has come from basins east of Scotland in the central North Sea. The northern North Sea, east of the Shetland Islands, also contains considerable reserves, and smaller deposits are located in the North Atlantic Ocean. Besides these offshore assets, the country had the Wytch Farm field, which was the largest onshore oil field in Europe (U.S. Energy Information Administration, 2006b§).

Falkland Oil and Gas Ltd. (FOGL) was an exploration company that was operating in the South and East Falkland Basins. FOGL announced that it was extending the 8,000 km seismic data survey, which commenced in June 2005, by a further 7,000 km. FOGL's objective was to define 20 drillable prospects from the numerous leads that had been identified. Once the 15,000 km survey has been completed, FOGL was intending to carry out a three-dimensional (3D) seismic program in the areas of highest prospectivity (Falkland Oil and Gas Ltd., 2005§).

Renewable Energy.—The Government stated that the United Kingdom had the best wind resource in Europe. The United Kingdom's installed capacity for available onshore wind power energy was 27%, which was greater than Denmark, 20%, and Germany, 15%, where wind farms were widespread. Wind power resource was considered dependable and available

during peak daytime periods and during winter. Wind power offers a natural source of electricity and reduces the reliance on imported fuels (Alexander's Gas & Oil Connections, 2005§).

SSE Generation [a subsidiary of Scottish and Southern Energy plc (SSE)], and Viking Energy Ltd. signed a memorandum of understanding that was expected to lead to the establishment of a joint venture aimed at developing a wind farm on the Shetland Islands with a capacity of up to 600 megawatts (MW). SSE Generation and Viking Energy had separate proposals for 300-MW wind farms in the central mainland of Shetland. They expected the proposals to be combined and lead to a plan for a single 600-MW wind farm. Shetland was the windiest part of the United Kingdom which was, in turn, the windiest country in Europe. A wind farm on Shetland could be expected to have a load factor of up to 50%, meaning it could produce electricity at close to its maximum capacity for about one-half of the time. That would make it the most productive wind farm in Europe (Scottish and Southern Energy plc, 2005b§).

SSE decided to proceed with the development of Scotland's first conventional large-scale hydroelectric power station in 50 years, following the decision by Scottish Ministers to give consent for the development. The hydroelectric scheme was to be located at Glendoe in the western end of the Monadhliat Mountains. The power station, which will be built underground, would be close to the southeast corner of Loch Ness. With an installed capacity of about 100 MW, Glendoe would be Scotland's second largest conventional hydroelectric station and the first large-scale station to be built since 1957. Glendoe would generate enough electricity to power about 2,500 homes (Scottish and Southern Energy plc, 2005a§).

Work was started in 2005 on the United Kingdom's first major power station fueled on grass. The \$12 million bioenergy power station in Staffordshire would run on elephant grass and supply 2,000 homes with electricity. Burning elephant grass would release only the carbon dioxide (CO₂) the plants acquired while they were growing. The plant would operate for 8,000 hours a year on a 24-hour basis and save 1 t of CO₂ per hour, which would have been emitted had fossil fuels been used to generate electricity (Alexander's Gas & Oil Connections, 2005§).

Outlook

The United Kingdom will continue to be a significant player in the world mining and mineral-processing industries, in particular the industrial minerals sector. This is more the result of the extensive range of companies in the country that have various interests in the international mineral industry than of the size of the domestic mineral industry. The major companies are capable of raising investment capital as required. The United Kingdom will continue to be an important political and economic power in Europe.

Exploration for natural gas and petroleum is expected to continue onshore and offshore. Onshore exploration activities will be directed mainly toward gold. Interest in offshore natural gas and petroleum exploration will continue to be focused on North Sea areas, particularly in the areas west of the Shetland Islands, the central North Sea, and the Southern Gas Basin of the North Sea. The possible loss of 50% of coal production

could be a major problem that could raise import dependency on coal.

The DTI is expected to continue to be involved in efforts to raise the level of environmental management and to maximize the best use of natural resources, which will include use of recycled materials. Renewable energy sources will continue to be evaluated and developed. Energy produced by wind power and biomass will become more important.

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Major Sources of Information

British Geological Survey
Keyworth, Nottingham NG1 25GG
United Kingdom

Central Statistics Office
Great George St.
London SW1 P3AQ
United Kingdom
Department of Economic Development (Northern Ireland)
Belfast BT1 3AJ
Northern Ireland
Department of the Environment
Minerals Division
2 Marsham St.
London SW1 P3EB
United Kingdom
Department of Trade and Industry
123 Victoria St.
London SW1E 6RB
United Kingdom
Geological Survey of Northern Ireland
20 College Gardens
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Northern Ireland

TABLE 1
UNITED KINGDOM: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

| Commodity | 2001 | 2002 | 2003 ^c | 2004 ^e | 2005 ^e | |
|--|-----------------------|--------------------|----------------------|-----------------------|-----------------------|---------------------|
| METALS | | | | | | |
| Aluminum: | | | | | | |
| Alumina from imported bauxite | 83,900 | 73,800 | 72,000 | 72,000 | 72,000 | |
| Metal: | | | | | | |
| Primary | 340,778 | 344,318 | 342,748 ² | 359,631 ² | 368,477 ² | |
| Secondary | 248,600 | 204,900 | 205,400 ² | 205,400 ² | 205,301 ² | |
| Total | 589,378 | 549,218 | 548,148 ² | 565,031 ² | 573,778 ² | |
| Cadmium, metal, including secondary | 425 | 292 | 22 ² | -- | -- | |
| Iron and steel: | | | | | | |
| Iron ore and concentrate, manganiferous: | | | | | | |
| Gross weight | 510 | 464 | 500 | 500 | 500 | |
| Fe content, 54% Fe | 281 | 255 | 275 | 275 | 275 | |
| Metal: | | | | | | |
| Pig iron | thousand metric tons | 9,861 | 8,579 | 10,228 ^{r,2} | 10,180 ^{r,2} | 10,500 |
| Steel: | | | | | | |
| Crude | do. | 13,610 | 11,718 | 12,900 | 13,766 ² | 13,210 ² |
| Hot-rolled | do. | 11,369 | 13,771 | 13,500 | 13,500 | 13,500 |
| Lead: | | | | | | |
| Mine output, Pb content ^e | 800 | 700 | 700 | 1,044 ^{r,2} | 1,044 ^p | |
| Metal: | | | | | | |
| Smelter: | | | | | | |
| Bullion from imported concentrate | 36,000 | 36,000 | 9,000 | 36,000 ^r | 36,000 | |
| Secondary, refined ^{e,3} | 100,000 | 100,000 | 100,000 | 120,000 | 120,000 | |
| Total | 136,000 | 136,000 | 109,000 | 156,000 ^r | 156,000 | |
| Refined: | | | | | | |
| Primary ⁴ | 202,915 | 207,719 | 181,668 ² | 225,000 ^r | 125,900 ² | |
| Secondary ³ | 163,390 | 166,927 | 169,574 ² | 50,000 ^r | 120,000 | |
| Total | 366,305 | 374,646 | 351,242 ² | 275,000 ^r | 245,900 ² | |
| Nickel, metal, refined ⁵ | 33,817 | 33,790 | 26,788 ² | 38,606 ^{r,2} | 37,127 ² | |
| Zinc, metal, smelter | 100,000 | 99,600 | 16,600 ² | -- | -- | |
| INDUSTRIAL MINERALS | | | | | | |
| Barite ^{e,6} | 66,000 | 59,000 | 57,000 | 61,000 ^r | 60,000 | |
| Bromine ^e | 27,900 ^{r,2} | 24,500 | 25,000 | 1,000 ^r | -- | |
| Cement, hydraulic | thousand metric tons | 11,854 | 11,089 | 11,215 ² | 11,405 ² | 11,216 ² |
| Clays: ^e | | | | | | |
| Fire clay | do. | 600 | 491 | 528 ^{r,2} | 600 ^r | 600 |
| Fuller's earth ⁷ | do. | 52 | 44 ² | 34 | 19 ^r | 11 ² |
| Kaolin, china clay ⁸ | do. | 2,204 ² | 2,163 ² | 2,097 ² | 1,995 ^{r,2} | 2,148 ² |
| Ball clay and pottery clay ⁷ | do. | 998 | 921 ² | 885 ² | 965 ^r | 900 |
| Other, including shale | do. | 10,100 | 10,306 ² | 10,400 | 10,500 | 10,500 |
| Feldspar, china stone | 2,995 | 1,896 | 2,097 ^{r,2} | 1,995 ^{r,2} | 2,000 | |
| Fluorspar, all grades ^{e,9} | 50,000 | 53,000 | 56,000 | 55,000 | 52,000 | |
| Gypsum and anhydrite ^e | thousand metric tons | 1,600 | 1,700 | 1,700 | 1,600 | 1,686 ² |
| Lime, hydrated and quicklime ^e | do. | 2,000 | 1,500 | 1,500 | 1,500 | 1,500 |
| Nitrogen, N content of ammonia | do. | 850 | 837 | 1,044 ² | 1,071 ² | 1,080 |
| Potash, K ₂ O equivalent | 531,900 | 540,100 | 621,400 ² | 375,000 ^r | 341,000 ² | |
| Salt: ^e | | | | | | |
| Rock | thousand metric tons | 1,900 | 1,500 | 1,500 | 1,500 | 1,500 |
| From brine | do. | 1,200 | 1,000 | 1,000 | 1,000 | 1,000 |
| In brine, sold or used as such | do. | 3,000 | 3,200 | 3,200 | 3,200 | 3,200 |
| Sand and gravel: | | | | | | |
| Common sand and gravel | do. | 101,397 | 94,424 | 91,000 | 90,000 | 90,000 |
| Industrial sand | do. | 4,100 ^e | 3,833 | 4,073 ^{r,2} | 4,000 | 4,000 |
| Sodium compounds, n.e.s., carbonate ^e | do. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |

See footnotes at end of table.

TABLE 1--Continued
UNITED KINGDOM: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

| Commodity | 2001 | 2002 | 2003 ^e | 2004 ^e | 2005 ^e |
|--|------------------------|-----------------------|------------------------|------------------------|---------------------|
| INDUSTRIAL MINERALS--Continued | | | | | |
| Stone: | | | | | |
| Crushed: | | | | | |
| Calcite ^e thousand metric tons | 12 | 10 | 10 | 10 | 10 |
| Chalk ^e do. | 10,000 | 8,587 ² | 8,066 ^{r,2} | 8,000 ^r | 8,000 |
| Dolomite ^e do. | 14,000 | 12,937 ² | 12,167 ^{r,2} | 13,000 | 13,000 |
| Igneous rock do. | 53,190 | 51,008 | 51,356 ^{r,2} | 52,000 ^r | 52,000 |
| Limestone ^e do. | 83,492 ^{r,2} | 83,492 ^{r,2} | 88,013 ^{r,2} | 86,846 ^{r,2} | 87,000 |
| Sandstone do. | 19,967 | 18,362 | 11,665 ^{r,2} | 11,929 ^{r,2} | 12,000 |
| Slate, including fill do. | 467 | 622 | 900 | 900 | 900 |
| Total do. | 181,128 ^r | 175,018 ^r | 172,000 ^r | 173,000 ^r | 173,000 |
| Dimension:^e | | | | | |
| Igneous do. | 51,501 ^{r,2} | 51,225 ^{r,2} | 51,356 ^{r,2} | 52,000 ^r | 52,000 |
| Limestone do. | 250 | 217 ² | 225 | 250 | 250 |
| Sandstone do. | 250 | 250 | 250 | 250 | 250 |
| Slate do. | 551 ^{r,2} | 742 ^{r,2} | 832 ^{r,2} | 901 ^{r,2} | 900 |
| Total do. | 52,600 ^r | 52,400 ^r | 52,700 ^r | 53,400 ^r | 53,400 |
| Sulfur, byproduct:^e | | | | | |
| Of metallurgy | 69,000 ² | 33,000 ² | 13,000 | 15,000 | 15,000 |
| Of petroleum refining | 111,000 | 125,000 | 115,000 | 120,000 | 120,000 |
| Total | 180,000 | 158,000 | 128,000 | 135,000 | 135,000 |
| Talc, soapstone, pyrophyllite | 4,937 | 6,194 | 6,000 | 6,000 | 4,000 |
| Titania ^{e,10} | 200 | 200 | 200 | 200 | 200 |
| MINERAL FUELS AND RELATED MATERIALS | | | | | |
| Coal: | | | | | |
| Anthracite | 616 | 2,000 ^e | 1,500 | 1,200 | 600 |
| Bituminous, including slurries, fines, and so forth | 31,512 | 28,000 | 26,258 ^{r,2} | 23,335 ^{r,2} | 20,000 |
| Total | 32,128 | 30,000 ^e | 27,758 ^{r,2} | 24,535 ^{r,2} | 20,600 ² |
| Coke: | | | | | |
| Metallurgical | 5,306 | 4,335 | 4,286 ² | 4,300 | 4,300 |
| Breeze, all types | 210 | 221 | 314 ² | 300 | 300 |
| Fuel briquets, all grades | 550 | 431 | 393 ² | 400 | 400 |
| Gas, natural: | | | | | |
| Marketable ¹¹ million cubic meters | 112,768 ^r | 109,050 | 108,091 ^{r,2} | 100,969 ^{r,2} | 92,620 ² |
| Marketed ^{e,12} do. | 70,000 | 70,000 | 70,000 | 70,000 | 70,000 |
| Natural gas liquids ^{e,13} thousand 42-gallon barrels | 62,000 | 62,000 | 60,000 | 60,000 | 60,000 |
| Peat ^e cubic meters | 1,000 | 973 ² | 2,008 ^{r,2} | 1,262 ^{r,2} | 1,000 |
| Petroleum: | | | | | |
| Crude ¹⁴ thousand 42-gallon barrels | 821,220 | 810,158 | 733,763 ^{r,2} | 715,304 ^{r,2} | 700,000 |
| Refinery products:^e | | | | | |
| Liquefied petroleum gas do. | 21,937 ^{r,2} | 24,963 ² | 26,828 ^{r,2} | 25,000 | 25,000 |
| Naphtha, including white spirit do. | 26,000 ^{r,e} | 27,480 ² | 28,000 | 28,000 | 28,000 |
| Gasoline do. | 181,296 ^{r,2} | 198,458 ² | 191,187 ^{r,2} | 200,000 | 200,000 |
| Jet fuel and kerosene do. | 70,445 ^{r,2} | 71,952 ² | 69,314 ^{r,2} | 72,000 | 72,000 |
| Distillate fuel oil do. | 199,911 ^{r,2} | 210,536 ² | 206,919 ^{r,2} | 200,000 | 200,000 |
| Residual fuel oil do. | 76,832 ^{r,2} | 57,768 ² | 74,278 ^{r,2} | 58,000 | 58,000 |
| Lubricants do. | 6,500 | 6,500 | 6,500 | 6,500 | 6,500 |
| Bitumen do. | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Petroleum coke do. | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Petroleum wax do. | 400 | 400 | 400 | 400 | 400 |
| Unspecified do. | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Refinery fuel and losses do. | 37,522 ^{r,2} | 40,625 ^{r,2} | 31,755 ^{r,2} | 30,000 ^{r,e} | 30,000 |
| Total do. | 666,000 ^r | 684,000 ^r | 680,000 ^r | 665,000 ^r | 665,000 |

See footnotes at end of table.

TABLE 1--Continued
UNITED KINGDOM: PRODUCTION OF MINERAL COMMODITIES¹

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

¹Table includes data available through February 2007.

²Reported figure.

³Includes a small quantity of primary lead from domestic concentrate.

⁴Produced entirely from imported bullion and includes the lead content of alloys.

⁵Refined nickel and nickel content of ferronickel.

⁶Includes witherite.

⁷Salable product.

⁸Sales, dry weight.

⁹Proportions of grades not available; probably about two-thirds acid grade.

¹⁰Sales.

¹¹Methane, excluding gas flared or reinjected.

¹²Marketable methane, excluding that used for drilling, production, and pumping operations.

¹³Includes ethane, propane, butane, and condensates, respectively.

¹⁴Excludes gases and condensates.

TABLE 2
UNITED KINGDOM: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

| Commodity | Major operating companies and major equity owners | Location of main facilities | Annual capacity | |
|---------------------|--|--|-------------------------------|-------|
| Alumina | Alcan Inc. | Burntisland, Scotland (closed) | 100,000 | |
| Aluminum: | | | | |
| Primary | British Alcan Aluminium Ltd. | Fort William, Kinlochleven, and Lynemouth | 196 | |
| Do. | Anglesey Aluminium Ltd. (Rio Tinto Corp., 51%, and Kaiser Aluminum and Chemical Corp., 49%) | Holyhead, Wales | 113 | |
| Secondary | Bernhard Metals Ltd. | Derby | 50 | |
| Do. | Calder Industries Ltd. | do. | 35 | |
| Do. | Deeside Aluminium Ltd. | Clwyd, Wales | 55 | |
| Do. | Hydro Aluminium Alupres Ltd. | Caerphilly, Wales | 38 | |
| Barite | Laporte Industries plc | Mines in Derbyshire | 25 | |
| Do. | M-I Drilling Fluids (UK) Ltd. | Aberfeldy | 50 | |
| Celestite | Bristol Minerals Co. Ltd. | Yate, Avon | 30 | |
| Cement | Aberthaw and Bristol Channel Portland Cement Co. Ltd. | East Aberthaw and Rhoose, Glamorgan, Scotland | 1,000 | |
| Do. | Lafarge Cement UK (Lafarge Group) | Plants at Aberthaw, Cauldon, Dunbar, Hope, Masons, Northfleet, Plymstock, and Weardale | 7,300 | |
| Do. | Castle Cement Ltd. (Heidelberg Cement AG, 100%) | Plants at Ketton, Ribblesdale, Padeswood, and Pitstone | 3,400 | |
| Do. | Rugby Group | Plants at Barrington, Chinnor, Rochester, Rugby, and South Ferriby | 2,700 | |
| Clay: | | | | |
| Ball clay | WBB Minerals (SCR Sibelco NV) | Various operations in northern and southern Devon | 500 | |
| Do. | Imerys Group | Operations in Bovey and Wareham Basins, Dorset | 300 | |
| China clay (kaolin) | do. | Mines and plants in Cornwall and Devon | 3,000 | |
| Do. | WBB Minerals (SCR Sibelco NV) | Mines and plants in Cornwall | 1,000 | |
| Coal | million metric tons | UK Coal plc | 19 mines in various locations | 30 |
| Copper | IMI Refiners Ltd. | Refinery at Walsall, west Midlands | 80 | |
| Ferrous alloys | Corus Group | Teesside, Cleveland | 80 | |
| Do. | Murex Ltd. | Rainham, Essex | 25 | |
| Do. | London and Scandinavian Metallurgical Co. Ltd. | Rotherham, South Yorkshire | 30 | |
| Do. | Eastlink Ferrous Alloys Ltd. | Glossop | 1 | |
| Fluorspar | Glebe Mines Ltd. | Mill at Stoney Middleton, mines in Derbyshire | 250 | |
| Gypsum | British Gypsum Ltd. | Mines in Cumbria, Nottinghamshire, and Sussex | 3,500 | |
| Lead: | | | | |
| Primary | Britannia Refined Metals Ltd. (MIM Holdings Ltd.) | Northfleet, Kent | 225 | |
| Secondary | do. | do. | 50 | |
| Do. | H.J. Enthoven and Son Ltd. [Billiton (U.K.) Ltd., 100%] | Darley Dale, Derbyshire | 60 | |
| Lead, smelter | MIM Holdings (U.K.) Ltd. | Avonmouth, Avon | 55 | |
| Natural gas | billion cubic feet per year | Amoco Ltd., British Petroleum Ltd., Esso (U.K.) Ltd., Phillips Petroleum Co. plc, Shell (U.K.) Ltd. | North Sea gasfields | 1,250 |

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|-----------------------------------|--------------------------------------|---|--|--------------------|
| Nickel, refined | | INCO Europe Ltd. (INCO Ltd., Canada) | Clydach, Wales | 30 |
| Nitrogen, N content of ammonia | | Terra Nitrogen Ltd. | Billingham | 550 |
| Petroleum: | | | | |
| Crude | million 42-gallon barrels per day | Amoco Ltd., British Petroleum Ltd., Chevron Ltd., Esso (U.K.) Ltd., Occidental Petroleum Co. Ltd., Shell (U.K.) Ltd., Texaco Ltd., Unocal, Inc. | North Sea oilfields | 2 |
| Refined | do. | British Petroleum Ltd., Conoco Ltd., Mobil Oil Co. Ltd., and others | 11 refineries in various locations | 2 |
| Platinum-group metals | | Johnson Matthey plc | Refineries at Enfield (London) and Royston | 20 |
| Potash | | Cleveland Potash Ltd. (Israel Chemicals Ltd., 100%) | Boulby Mine, Yorkshire | 1,000 |
| Salt: | | | | |
| Road | | do. | do. | 600 |
| Rock | | British Salt Ltd. | Middlewich | 800 |
| Do. | | Irish Salt Mining and Exploration Co. | Mine at Carrick Fergus, Northern Ireland | 300 |
| Sand and gravel | | TMC Pioneer Aggregates Ltd. | Chelmsford, Essex | 1,000 |
| Silica sand | | WBB Minerals (SCR Sibelco NV) | Various operations in Chesire, Humberside, and Norfolk | 5,000 |
| Slate, natural | | Alfred McAlpine Slate Ltd. | Penrhyn quarry, Bethesda, Wales | 25 |
| Steel | | Corus Group plc | 4 steelworks in Gwent, Humberside, Lanark, and Scunthorpe | 18,000 |
| Do. | | ASW Holdings plc | Integrated steelworks at Cardiff, Wales | 600 |
| Stone, crushed | | ARC Ltd. (Hanson plc, 100%) | 50 quarries in various locations | 50,000 |
| Do. | | do. | Glensanda quarry at Oban, Scotland | 15,000 |
| Talc | | Alex Sandison and Son Ltd. | Unst, Shetland Islands | 15 |
| Do. | | Shetland Talc Ltd. (Anglo European Minerals Ltd., 50%, and Dalriada Mineral Ventures Ltd., 50%) | Cunningsburg, Shetland Islands | 35 |
| Tin, ore | | Baseresult Holdings Ltd. | South Crofty Mine, Cornwall (closed March 1998) | 1,800 |
| Titanium, sponge | | Deeside Titanium Ltd. | Plant at Deeside, Clyde | 5 |
| Zinc, smelter | | Britannia Zinc Ltd. (Xstrata plc, 100%) | Avonmouth, Avon (closed 2003) | 120 |