

THE UNITED KINGDOM

By Harold R. Newman

Mine production of ferrous and nonferrous metals in the United Kingdom has been declining for more than 20 years as reserves become depleted. Because metal processing has become the basis of a large and economically important mineral industry, imports were required to satisfy metallurgical requirements.

Operations in the steel sector showed moderate decreases as the demand for steel decreased. The industrial minerals sector has provided a significant base for expanding the extractive industries, and the balance has shifted away from the metallic mineral sector. Companies have a substantial interest in the production of domestic and foreign industrial minerals, such as aggregates, ball clay, china clay (kaolin), and gypsum (table 1).

Government Policies and Programs

The current statute regarding the development and working of mineral deposits is called the 1971 Act. This act consolidated all earlier planning legislation and has been amended by various statutes. Minerals were defined in section 209 of the 1971 Act to include all minerals and materials in or under land of a kind ordinarily worked for removal by underground or surface workings; it did not, however, include peat cut for purposes other than for sale. Mineral development was 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 was authorized to license open pit and underground mines to the private sector subject to restrictions on size and the payment of a royalty on the amount of coal produced.

Most other mineral rights in Great Britain are privately owned. The exceptions are gold and silver, the rights to which are vested in the Royal Family and are referred to as "Crown Rights." A different situation regarding mineral rights applies to Northern Ireland where, under the Mineral Development Act (Northern Ireland), 1969, the right to work minerals and the right to license others to do so are vested in the state.

Production

The Department of Trade and Industry (DTI) ensures a continuing supply of minerals for the country's industry and oversees mineral activities. Its areas of responsibility are all nonfuel minerals, which include 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, in particular, was important to the Nation's economy.

Through its Metals and Minerals Branch, the DTI is responsible for mineral fuels, which include coal, natural gas, and petroleum, and for issuing licenses for the exploration, appraisal, and production of natural gas and petroleum. These activities had previously been overseen by the Department of Energy (DOE).

In 2000, the DOE remained responsible for the minerals that were used in the construction industry. These included aggregates, brick and brick clay, cement and its raw materials, dimension stone, gypsum for plaster, and sand and gravel. State and privately owned corporations produced minerals and mineral-based products. State ownership was mostly in the nuclear power industry (table 2).

The United Kingdom was entering its seventh consecutive year of economic expansion, although growth slowed in concert with other European Union (EU) countries. Real gross domestic product growth was expected to remain below 2% in 2000. The indices of industrial production are listed in table 3.

The country's economy is largely shaped by market forces, with independent regulatory bodies providing additional direction in those sectors where private individuals are the principal users of the product or service. Government initiatives include continued privatization, deregulation, and support for competition. Government policy is still evident, however, in some areas, such as favoring coal over gas for electric power generation (U.S. Embassy, London, United Kingdom, 2000, p. 32).

Commodity Review

Metals

Aluminum.—Of the four primary aluminum smelters in the United Kingdom, three were owned and operated by British Alcan Aluminium Ltd. (the United Kingdom subsidiary of Montreal-based Alcan Aluminium Ltd). The fourth smelter [owned by Rio Tinto Ltd. (51%) and Kaiser Aluminum and Chemical Corp. of the United States (49%)] was operated by Anglesey Aluminium Ltd. All the aluminum smelters depended on imported alumina for feedstock.

British Alcan announced it was going to close the Kinlochleven aluminum smelter in Scotland by yearend 2000. The plant began operation in 1907 with an original capacity of 11,000 metric tons per year (t/yr) but was producing only about 7,000 t/yr. British Alcan was planning to improve output at the two other smelters to 160,000 to 170,000 t/yr at Lynemouth and to 46,000 to 47,000 t/yr at Lochhabber by 2010 (Mining Journal, 2000b).

The secondary aluminum metal industry treats recycled aluminum and low-grade aluminum scrap, such as swarf. The

main consuming sector for secondary aluminum ingots was the automotive industry. The secondary aluminum industry was going through a difficult period as profit margins continued to be squeezed between high scrap prices and low ingot prices. The pressure on scrap, particularly pure grades as those of the London Metal Exchange primary contract, rose to more than \$1,600 per metric ton and led to higher prices. Higher scrap prices, however, did not translate into higher ingot prices. Some smelters were trying to take a stand on ingot prices and move them up to realistic levels to cover the cost of the scrap. Smelters might shut down more capacity or sell noncore assets to survive and pay down debt (Metal Bulletin, 2000a).

In 2000, Brent Smelting Works announced that it was closing. The company stated that it felt the secondary aluminum ingot business would be led by one or two major players in the United Kingdom and that a company its size was not in keeping with that. The smelter, which was founded in 1940, is close to the M1 motorway, and the site has a high property value. The site will be leased out to a property management firm, and income from this is expected to be higher than the income the company earned from secondary aluminum smelting (Metal Bulletin, 2000b).

Copper.—Billiton plc of the United Kingdom and the Chilean state-owned copper producer Corporación Nacional del Cobre de Chile (Codelco) agreed to form a joint venture to apply Billiton's patented copper bioleaching technology (BioCOP[®]) on a commercial basis. The two companies worked together on BioCOP[®] for 3 years with pilot plants at Billiton's research facilities and Codelco's Chuquicamata division. The BioCOP[®] process takes a flotation concentrate from the treatment of primary copper ore and bioleaches the contained copper into a slurry that contains soluble copper sulfate. The bioleaching takes place in stirred tanks and dissolves the copper in the process. The separated copper sulfate-rich slurry then is subjected to the solvent extraction-electrowinning (SX-EW) process to produce copper cathode (Mining Journal, 2000a).

Iron.—Production of iron ore was limited to a small amount of hematite ore mined by Egremont Mining Co. at the Florence Mine in Cumbria. The output went for pigments and foundry annealing uses rather than metal production.

Steel.—Corus Group, which had been created in 1999 by the merger of British Steel plc. and Koninklijke Hoogovens NV of the Netherlands, was the fifth largest steel producer in the world in 2000 after Pohang Iron and Steel Co. of the Republic of North Korea, Nippon Steel Corp. of Japan, Arbed Group of Luxembourg, and Usinor Group of France. Although traditional ingot casting was still used in the manufacture of certain grades of steel, most of the output was by means of continuous casting. Corus was also Europe's top tinplate producer with production of about 1.5 million metric tons per year (Mt/yr) (Metal Bulletin, 2001).

Tin.—The South Crofty Mine in the county of Cornwall, which was the last United Kingdom producing tin mine, was acquired by Baseresult Ltd., which bought the 8.6 million shares of South Crofty Holding Ltd. The mine could be reopened.

South Crofty had been allowed to flood when it was closed in March 1998. Pumping water from the mine was to begin in 2001. The cost of returning the mine to its preclosure state was estimated to be more than \$3 million. The Wheal Jane plant's processing equipment would be transferred because the focus of operations would be the South Crofty Mine itself. Attempts to get Government funding to assist in reopening the mine failed (Metal Bulletin, 2000c).

The only remaining tin mining activity in the area was a very small scale production of cassiterite by a tourist operation, which smelted the ore onsite to produce metallic tin for jewelry and ornaments.

Industrial Minerals

Cement.—The United Kingdom's two largest cement producers were Blue Circle Industries plc. (BCI) and Castle Cement Ltd. The third producer was Rugby Group. BCI had 10 plants, which included 1 in Northern Ireland. Castle had four plants, including one grinding plant. Rugby had six plants (table 2).

BCI sold its 50% interest in Aalborg Portland A/S of Denmark to Aalborg Portland Holding, a Danish materials group, for \$120 million. BCI, which fought off a \$5.5 billion hostile takeover bid from Lafarge of France in May 2000, was fulfilling part of the promises made to shareholders in its defense document. BCI was also planning to sell its North American aggregates business (Croft, 2000).

Clay.—The United Kingdom was a leading world producer and exporter of ball clay and china clay (kaolin). Watts, Blake, Bearn & Co. plc (WBB) was the country's largest producer of ball clay. English China Clays Plc. was the largest producer of china clay and one of the major producers worldwide. Operations were mainly in the southwestern area of the United Kingdom.

ECC International Ltd. operated ball clay and kaolin mines and quarries in the Wareham Basin, Dorsetshire, the Bovey Basin, south Devonshire, and the Petrockstowe Basin, north Devonshire. A majority of the production was from the Bovey Basin.

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.

Potash.—Cleveland Potash Ltd. (CPL), which was the only potash producer in the United Kingdom, operated the Boulby Mine in Yorkshire. CPL also mined rock salt as a coproduct from an underlying seam in the Boulby Mine. The seam of potash extends out under the North Sea and occurs at depths of between 1,200 and 1,500 meters (m) in a seam that ranges up to 20 m but averages 7 m in thickness. Within a Permian evaporite sequence, silvinite ore comprises 35% to 45% sylvite and 45% to 55% halite plus impurities. The sedimentary strata above the evaporites include the Triassic Sherwood sandstone,

which contains brine under high pressure. During extraction, pressured gas will occasionally cause blowouts in the shaly parts of the potash (Cleveland Potash Ltd., 2000, Boulby—Potash mine, accessed March 12, 2001, at URL <http://www.mining-technology.com/projects/boulby/index.html>).

Silica, sand.—In July, WBB announced the acquisition of Hepworth Minerals and Chemicals (Holdings) Ltd. (HMC) for \$120 million. This brought the United Kingdom's largest producer of silica sand into WBB Group. HMC has extensive mineral reserves and operates in the United Kingdom, continental Europe, and the Asia-Pacific region. There are 12 operating sites in the United Kingdom. WBB is a world leader in raw materials for the ceramics industry (WBB, 2000, WBB Group acquires Hepworth Minerals and Chemicals, accessed January 3, 2001, via URL http://www.WBB.co.uk/wbbhtm/press_release.htm).

Slate.—Most slate mining in the United Kingdom was in northern Wales; additional mining operations were in Cornwall and the Lake District. Alfred McAlpine Slate Ltd. was the owner and operator of the Cwt y Bugail, the Ffestiniog, and the Penrhyn quarries in northern Wales. The Penrhyn quarry at Bethesda measured 2,415 m by 805 m and was considered to be the world's largest slate quarry; it has been in operation for more than 400 years. The company also produced slate from its quarry in the United States through Hilltop Slate Inc., New York. Historically, slate has been used in roofing applications, but in more recent times, markets have been extended to include interior flooring and window sills, as well as ornamental landscapes. McAlpine Slate produced more than one-half of the United Kingdom's entire production of natural slate. The company exported about two-thirds of its production, mostly to Europe (Alfred McAlpine Slate Ltd., 2000, About us, accessed November 29, 2000, at URL <http://www.amslate.com/about.shtml>).

Mineral Fuels

Coal.—At the end of March, the Coal Authority had in place operating or conditional mining licences for 82 underground and 328 open pit mines, together with 10 coalbed methane agreements. There were also 496 coal exploration licences. The Coal Authority estimated that under existing licences, there were operating licence coal reserves of 435 million metric tons (Mt) underground and 25 Mt open pit, with conditional licence coal reserves of 82 Mt underground and 230 Mt open pit, and closed (where mining has ceased but licence is still valid) 120 Mt underground, 4 Mt open pit. In 2000, the coal industry of England had a work force of 9,700 that produced 24.1 Mt; in Scotland, a work force of 2,200 produced 8.2 Mt; and in Wales, a work force of 1,100 produced 2.1 Mt (Mining Journal, 2000d).

Most of the coal mining industry was owned by RJB Mining plc., which was the largest coal mining company in the United Kingdom and the largest independent coal producer in the EU. RJB operated 13 underground and 15 open pit mines, which sold a total of 22.5 Mt in 1999. The largest operation was the

underground Selby Complex, which consisted of Riccall/Whitmoor, Stillingfleet Combine, and Wistow (Mining Journal, 2000d).

This biggest part of the United Kingdom's coal mining industry was expected to be acquired by Renco Group of the United States. If the \$158 million deal is finalized with RJB, then it could end subsidies from United Kingdom taxpayers and could also mean the loss of a few thousand jobs in the mining industry. Renco was interested in RJB for the value of its land as much as for its mining capability. RJB has an extensive portfolio that covers about 20,000 hectares, acquired with its mines from the formerly state-owned British Coal (Mining Journal, 2000d).

In early 2000, Midlands Mining plc ceased to produce coal from its only remaining colliery, Annesley-Bentinck (Department of Trade and Industry, 2000).

The international and independent energy company EuroGas Inc. entered into an agreement with Slovgold GesmbH of Austria to conduct a six-well pilot program, that would comprise 500 square kilometers in south Wales to test for coalbed methane gas. If the program is successful, then an additional 10 wells would be drilled. The potential for methane gas production from the south Wales coalfield that underlies the acreage was considered to be significant. There was vent gas production in the area where consistent flow rates of high-purity methane gas have been obtained; vent gas refers to gas produced from abandoned mine shafts. Because southern Wales is the highest demand area and is the most remote from North Sea gas production in the United Kingdom, local gas prices are the highest in the United Kingdom. Accordingly, local gas production has emerged as a competitive gas source for power generation (EuroGas Inc., January 20, 2000, EuroGas enters United Kingdom coalbed methane project, accessed January 22, 2000, at URL http://biz.yahoo.com/prnews/000120/eurogas_uk_1.html).

RJB and Texaco (UK) Ltd. announced plans for a joint study to explore the possibility of developing the United Kingdom's first large-scale state-of-the-art "clean coal" powerstation on a site adjacent to RJB's Kellingley Colliery in West Yorkshire. The 400-megawatt Kellingley station would incorporate clean-coal technology, which has a proven track record for efficiency and emission-reduction performance. It would consume about 1 Mt/yr, which was half the planned annual output of the Kellingley Colliery (RJB Mining Plc., [2000], A profile of RJB Mining Plc., accessed November 29, 2000, at URL <http://www.rjb.co.uk/docprof.htm>).

Natural Gas and Petroleum.—The offshore United Kingdom sector of the 36-year-old North Sea oilfield continued to be significant in international petroleum and natural gas activities. As a result, the country has become a headquarters for international oil companies and a major energy supplier to other countries.

After completion of the 18th round of offshore licensing in June 1998, no further offshore licensing rounds have been announced.

As a result of the May 2000 ninth round of onshore licensing, 21 companies were awarded 37 licenses for petroleum and natural gas exploration. Almost half of the 123 blocks licensed

were for the exploration of coalbed methane and mine gas. Further licenses were expected to be awarded (Alexander's Gas and Oil Connections, August 18, 2000, UK Energy Minister awards 37 licences to 21 companies for oil and gas, accessed August 21, 2000, at URL <http://www.gasandoil.com/goc/news/nte03393.htm>).

Exploration for petroleum on the Falkland Islands Continental Shelf is governed by Falkland Islands law. These provisions are independent of the United Kingdom laws and regulations, although there are many similarities to the United Kingdom North Sea regime. The North Falkland Basin was the location of the drilling activity. The basin comprises two main structural elements—a north-south-trending graben called the North Falkland Graben and a set of subsidiary basins to the west of the graben that are also controlled by north-south-trending extensional faults but constrained by northwest-southeast-oriented reactivated Paleozoic thrust sheets. The North Falkland Graben is subdivided, in its northern part, into western and eastern depocenters that are separated by a pervasive north-south-trending intragrabenal high. The graben is about 50 kilometers (km) wide at its northern end and about 30 km wide at its southern margin, and a length of about 230 km long has been mapped. It lies directly north of the Falkland Islands (Falkland Islands Government, 2000, Offshore oil exploration, accessed March 4, 2001, at URL <http://www.falklands.gov.fk/oildept2.htm>).

Data from six wells drilled in the North Falkland Basin were analyzed by the companies involved and the British Geological Survey (BGS). Although no commercially viable accumulations of oil were found, some evidence of gas and minor quantities of oil were found at five of the six wells, and one of the wells flowed live oil to surface. Even though large accumulations of oil were not found, the BGS suggested that was because all the wells targeted potential oilfields above the source rock, whereas new geologic modeling suggests that it would be better to look beneath the source rock (Falkland Islands Government, 2000, Falkland Islands offshore oil exploration, accessed May 14, 2001, at URL <http://www.falklands.gov.fk/9bg.htm>).

There was no evidence that the Falkland Islands contained metalliferous minerals of economic value. It is possible, however, that there could be suitable graded deposits of silica sand for glass manufacture. The only local fuel was peat (Falkland Islands Government, 2000, Minerals, accessed April 4, 2001, at URL <http://www.falklands.gov.fk/10h.htm>).

Outlook

In the United Kingdom and Europe, transportation changed significantly with the completion and operation of the Channel Tunnel. The tunnel, which is referred to as the "Chunnel," was constructed underneath the English Channel and connects Folkestone, England, and Coquelles, near Calais, France. Everything transported through the tunnel moves by rail. The trip takes about 30 minutes. The Channel Tunnel was a vital component of the European single-market concept.

The United Kingdom is a significant player in the world mining and mineral-processing industries. This is more the

result of an extensive range of companies in the country that have various interests in the international mineral industry rather than the domestic mineral industry. This situation is expected to continue.

Exploration for petroleum and natural gas is expected to continue onshore and offshore. Onshore exploration activities will be directed mainly toward precious metals, mainly gold. Offshore petroleum and natural gas exploration interest 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 DTI is expected to continue to be involved in the development of mineral resources. Efforts to raise the level of environmental management and to maximize the best use of natural resources, which will include use of recycled materials and alternate sources of energy, will continue.

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Major Sources of Information

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Keyworth, Nottingham NG1 25GG
United Kingdom
- Central Statistics Office
Great George St.
London SW1 P3AQ
United Kingdom
- Department of Economic Development (Northern Ireland)
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Northern Ireland
- Department of the Environment
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- Department of Trade and Industry
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United Kingdom

TABLE 1
UNITED KINGDOM: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1996	1997	1998	1999	2000 e/
METALS					
Aluminum:					
Alumina from imported bauxite e/	99,000	100,000	96,000	90,000	100,000
Metal:					
Primary	239,963	247,675	258,397	272,211	305,100 3/
Secondary	257,200	257,800	236,000 e/	274,800	285,300 3/
Cadmium, metal including secondary	541	455	440 e/	547	500
Copper, metal, refined:					
Primary	12,869	9,000 e/	7,000	--	1,000
Secondary	43,746	51,402	47,774	50,334	49,000
Total	56,615	60,402	54,774	50,334	50,000
Iron and steel:					
Iron ore:					
Gross weight	1,180	1,210	1,188	1,000 e/	1,033 3/
Fe content (54% Fe)	637	653	642	568 e/	540
Metal:					
Pig iron	12,830	13,057	12,569	12,399	10,989 3/
Steel, crude	18,220	18,528	17,007	16,634	15,306 3/
Steel, hot rolled	18,869	16,149	15,214	14,334 r/	12,783 3/
Lead:					
Mine output, Pb content e/	1,800	1,800	1,800	1,000	1,000
Metal:					
Smelter:					
Bullion from imported concentrate	41,991	38,500 e/	37,927	40,177	36,700 3/
Secondary (refined) e/ 4/	100,000	100,000	100,000	100,000	100,000
Total e/	142,000	139,000	138,000	140,000	137,000
Refined:					
Primary 5/	168,108	215,243	186,212	185,422	166,411 3/
Secondary 4/	177,466	175,783	163,492	162,651	170,740 3/
Total	345,574	391,026	349,704	348,073	337,151 3/
Magnesium, metal, secondary including alloys e/	1,000	1,000	1,000	500	500
Nickel, metal, refined 6/	38,561	36,586	41,994	39,467	37,976 3/
Tin:					
Mine output, Sn content	2,103	2,396	400 e/	--	--
Metal, secondary (refined) e/	100	--	--	--	--
Zinc, metal, smelter	96,867	107,704	99,600	132,800	99,600 3/
INDUSTRIAL MINERALS					
Barite e/ 7/	102,000 3/	74,000	68,000	59,000 r/	55,000
Bromine	30,600	35,600 r/	35,900 r/	55,000 r/ e/	50,000
Cement, hydraulic	12,214	12,638	12,409	12,900 e/	12,500
Clays:					
Fire clay	536	338	500 e/	575 e/	500
Fuller's earth 8/	143	135	95 e/	75 e/	70
Kaolin (China clay) 9/	2,281	2,360	2,392	2,304	2,420 3/
Ball clay and pottery clay 9/	866	916	960 e/	985 e/	1,000
Other, including shale e/	13,000 3/	12,000	10,000	12,500	12,000
Feldspar (china stone) e/	8,000	8,000	3,278 3/	3,000	2,000
Fluorspar, all grades e/ 10/	65,000 3/	67,000	65,000	40,000	35,000
Gypsum and anhydrite e/	2,000	2,000	2,000	1,800	1,500
Lime, quicklime and hydrated e/	2,500	2,500	2,500	2,500	2,500
Nitrogen, N content of ammonia	850	642	871	901	814 3/
Potash, K ₂ O equivalent	618,000	564,500	608,400	494,700	500,000
Salt: e/					
Rock	1,800	1,800	700	1,500	1,700
From brine	1,300	1,300	1,300	1,300	1,200
In brine, sold or used as such	3,512 3/	3,561 3/	3,500	3,000	3,000
Sand and gravel:					
Common sand and gravel	96,377	99,800 e/	98,315	96,000 e/	98,000
Industrial sand	4,816	4,800 e/	4,662	4,600 e/	4,500
Sodium compounds, n.e.s. carbonate e/	1,000	1,000	1,000	1,000	1,000

See footnotes at end of table.

TABLE 1--Continued
 UNITED KINGDOM: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1996	1997	1998	1999	2000 e/
INDUSTRIAL MINERALS--Continued					
Stone:					
Crushed:					
Calcite e/ thousand tons	--	13 r/	15	-- r/	--
Chalk do.	9,239	9,550	9,934	10,000 e/	10,000
Dolomite do.	16,555	18,282	15,622	13,698 r/	14,000
Igneous rock do.	50,705	48,656	45,807	43,000 e/	50,000
Limestone do.	86,342	87,752	88,979	86,933 r/	86,000
Sandstone do.	17,251	18,499	20,129 r/	15,485 r/	15,000
Slate including fill do.	408	347	450	425 r/	350
Total do.	180,500	183,099 r/	180,936 r/	169,541 r/	175,000
Dimension: e/					
Igneous do.	100	100	138	140	125
Limestone do.	222	225	225	295	300
Sandstone do.	271	275	287	290	300
Slate do.	83	85	69	70	70
Sulfur, byproduct: e/					
Of metallurgy	44,700	39,200	40,500	26,600 3/	51,400 3/
Of petroleum refining	132,000	137,000	184,000	136,000	140,000
Total	177,000	176,000	225,000	162,600	191,400
Talc, soapstone, and pyrophyllite	5,322	5,500 e/	4,937	5,000 e/	5,000
Titania e/ 11/	233 3/	200	200	200	200
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Anthracite e/ thousand tons	1,000	1,000	1,000	1,000	797 3/
Bituminous including slurries, fines, etc. do.	50,515	46,981	40,272	36,450	31,175 3/
Lignite do.	2	1	1	--	--
Total e/ do.	51,500	48,000	41,300	37,500	31,972 3/
Coke: e/					
Metallurgical	6,220 3/	6,178 3/	6,178 3/	5,837 3/	6,058 3/
Breeze, all types	40	44	37 3/	33 3/	37 3/
Fuel briquets, all grades e/	796	814	616	635 3/	537 3/
Gas, natural:					
Marketable 12/ million cubic meters	89,900	91,800 e/	95,503	104,900	105,000
Marketed e/ 13/ do.	65,000 3/	66,000	68,000	70,000	70,000
Natural gas liquids 14/ thousand 42-gallon barrels	54,705	55,391	58,877	61,859	62,000
Peat cubic meters	1,885	1,619	1,076	1,000 e/	1,000
Petroleum:					
Crude 15/ thousand 42-gallon barrels	914,475	902,408	931,665	961,965	886,275 3/
Refinery products:					
Liquefied petroleum gases do.	22,875	24,232	25,265	24,406	25,000
Naphtha including white spirit do.	25,160	24,259	21,148	21,675	22,000
Gasoline do.	238,390	249,210	240,210	232,832	230,000
Jet fuel do.	66,440	66,763	63,536	59,032	60,000
Kerosene do.	27,203	25,854	26,900	27,714	28,000
Distillate fuel oil do.	215,616	214,684	207,828	195,280	195,000
Residual fuel oil do.	76,450	87,633	74,000	68,591	68,000
Lubricants do.	7,777	8,617	7,938	6,440	6,500
Bitumen do.	13,265	13,683	13,271	10,102	10,000
Petroleum coke do.	5,619	5,600	5,500	5,000 e/	5,000
Petroleum wax do.	323	325	350	472	400
Unspecified e/ do.	30,600	30,300	30,000	30,000	30,000
Refinery fuel and losses e/ do.	40,000	35,000	25,000	25,000	25,000
Total e/ do.	770,000	786,000	741,000	707,000	705,000

See footnotes at end of table.

TABLE 1--Continued
UNITED KINGDOM: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

e/ Estimated. r/ Revised. -- Zero.

1/ Table includes data available through May 2001.

2/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.

3/ Reported figure.

4/ Includes a small quantity of primary lead from domestic concentrate.

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

6/ Refined nickel and nickel content of ferronickel.

7/ Includes witherite.

8/ Salable product.

9/ Sales, dry weight.

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

11/ Sales.

12/ Methane, excluding gas flared or reinjected.

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

14/ Includes ethane, propane, butane, and condensates, respectively.

15/ Excludes gases and condensates.

TABLE 2
UNITED KINGDOM: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aggregate	ARC Ltd. (Hanson Plc., 100%) and Foster Yeoman Ltd.	50 quarries in various locations Glensanda quarry at Oban	50,000 15,000
Aluminum, primary	British Alcan Aluminium Ltd.	Fort William, Kinlochleven, and Lynemouth	175
Do.	Anglesy Aluminium Ltd. (Rio Tinto Corp., 51%; Kaiser Aluminum and Chemical Corp., 49%)	Holyhead, Wales	113
Aluminum, secondary	Trent Alloys Ltd. (Cookson Group, 100%)	North Cave, Humberside	30
Do.	Deeside Aluminium Ltd.	Clwyd, Wales	45
Ball clay	Watts, Blake, Bearn & Co. Plc.	Various operations in northern and southern Devon	500
Barite	Laporte Industries Plc.	Mines in Derbyshire	25
Celestite	Bristol Minerals Co. Ltd.	Yate, Avon	30
Cement	Aberthaw and Bristol Channel Portland Cement Co. Ltd.	East Aberthaw and Rhose, Glamorgan	1,000
Do.	Blue Circle Industries Plc.	Plants at Aberthaw, Cauldon, Dunbar, Hope, Masons, Northfleet, Plymstock, and Weardale	7,300
Do.	Castle Cement Ltd. (Scancem, 100%)	Plants at Ketton, Ribblesdale, Pades, and Pitstone	3,400
Do.	Rugby Group	Plants at Barrington, Chinnor, Rochester, Rugby, and South Ferriby	2,700
China clay (kaolin)	ECC Group Plc.	Mines and plants in Devonshire and Dorsetshire	3,000
Coal	million metric tons RJB Mining Plc.	19 mines in various locations	40
Copper	IMI Refiners Ltd.	Refinery at Walsall, west Midlands	80
Ferroalloys	British Steel Plc.	Teesside, Cleveland	80
Do.	Murex Ltd.	Rainham, Essex	25
Do.	London and Scandinavian Metallurgical Co. Ltd.	Rotherham, South Yorkshire	30
Fluorspar	Durham Industrial Minerals Ltd.	Mines in Weardale	50
Do.	Laporte Industries Plc.	Mill at Stoney Middleton, mines in Derbyshire	70
Gypsum	British Gypsum Ltd.	Mines in Cumbria, Nottinghamshire, and Sussex	3,500
Lead, refined	Britania Refined Metals Ltd.	Northfleet, Kent	165
Lead, secondary	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 Amoco Ltd. British Petroleum Ltd. Esso (U.K.) Ltd., Phillips Petroleum Co. Plc., Shell (U.K.) Ltd.	North Sea gasfields	1,250
Nickel, refined	INCO Europe Ltd. (INCO Ltd., Canada)	Clydach, Wales	30
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, Inc., and Unocal, Inc.	North Sea oilfields	2.1
Petroleum, refined	million 42-gallon barrels per day British Petroleum Ltd., Conoco Ltd., Mobil Oil Co. Ltd., and others	11 refineries in various locations	2.3
Platinum-group metals	Johnson Matthey Plc.	Refineries at Enfield (London) and Royston	20
Potash	Cleveland Potash Ltd.	Boulby Mine, Yorkshire	500
Salt, rock	Imperial Chemical Industries Plc.	Mines at Winsford, Cheshire	3,000
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	Hepworth Minerals and Chemicals Ltd.	Operations in Cambridgeshire, Cheshire, Humberside, and Norfolk	6,000
Slate, natural	Alfred McAlpine Slate Ltd.	Penrhyn quarry, Bethesda, Wales	25
Steel	Corus Group	4 intergrated steelworks in Cleveland, Gwent, Humberside, and Lanark	18,000
Talc	Alex Sandison and Son Ltd.	Unst, Shetland Islands	15
Do.	Shetland Talc Ltd. (Anglo European Minerals Ltd., 50%; Dalriada Mineral Ventures Ltd., 50%)	Cunningsburg, Shetland Islands	35
Tin, ore	Baseresult Ltd.	South Crofty Mine, Cornwall (closed March 1998)	1,800
Titanium, sponge	Deeside Titanium Ltd.	Plant at Deeside, Clyde	5
Zinc, smelter	MIM Holdings (U.K.) Ltd.	Avonmouth, Avon	120

TABLE 3
UNITED KINGDOM: SELECTED INDICES OF PRODUCTION

(1990 = 100)

Sector	1997	1998	1999	2000 e/
General	109	103	110	110
Mining	139	142	147	145
Manufacturing	104	105	105	105
Electricity and gas	122	124	126	127

e/ Estimated.

Source: United Nations, 2000, Monthly Bulletin of Statistics, v. LIV, no. 12
December, p. 34.