

THE MINERAL INDUSTRY OF

INDIA

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India, a republic consisting of 25 States and 7 union territories, was endowed with a large work force, including persons skilled in all areas of the minerals industry.

Under India's Constitution, the exploration and production of most minerals fell within the jurisdiction of the central Government. Accordingly, the mineral industry of India primarily was owned and administered by the Government, either directly or through public-sector endeavors, and most mining companies were nationalized.

The country was fairly rich in minerals. Its deposits of bauxite, copper, iron ore, and manganese were some of the largest in the world. Most of these deposits were in the south and central highlands of the country. The total value of all minerals produced in India represented about 3% of the country's gross domestic product, estimated to be about \$252 billion¹ in Indian fiscal year 1995-96.²

India was a major minerals producer, ranking among the world's leading producers of bauxite, bituminous coal, iron ore, and zinc ore. Its main mining industry was the production of steaming coal for power generation. Coal provided an estimated two-thirds of the country's energy requirements. Including peat and lignite, it accounted for an estimated 40% of the value of all mineral production. Iron ore, primarily from surface operations, accounted for an estimated 40% of the value of all metallic mineral production. Approximately 50% was used domestically for steel production and the balance was exported.

Domestic production of copper, lead, and zinc satisfied less than about 45% of the country's requirements, with imports fulfilling the balance. Aluminum was the only nonferrous metal for which an adequate domestic ore (bauxite) resource was available.

Limestone for steel and cement production remained the leader in the industrial minerals sector, producing an estimated 70% of the total value of industrial minerals.

The central Government introduced in midyear restrictions and prohibitions on expansion, modernization, or startup of new projects in any part of the country, unless environmental clearance previously had been bestowed. All major projects were required to submit an environmental impact assessment as well as an environmental management plan prior to the granting of environmental clearance.

Mining in India was regulated under the Mines and Minerals (Regulation and Development) Act, 1957, as modified. Under this Act, all minerals were owned by the constituent States, but were administered by the central Government. Mining royalties and taxes, although set and revised by the central Government, were paid directly to the individual States.

The mining industry was administered by the Ministry of Mines, which was responsible for geological surveys, exploration, and administration of the Mines and Minerals Act for all minerals except mineral fuels. Coal was administered by the Department of Coal within the Ministry of Energy. The Ministry of Petroleum and Natural Gas had responsibility for exploration and production of oil and natural gas, as well as its refining, distribution, and marketing. Nuclear materials were regulated by the Department of Atomic Energy (DAE). The Geological Survey of India, the Indian Bureau of Mines, and the Controller of Mining Leases were subordinate offices within the Ministry of Mines.

The minerals industry of India produced about 70 mineral commodities embracing various ores, metals, industrial minerals, and mineral fuels. An estimated 4,400 mines operated in the country, the vast majority of which were small surface operations using only hand-mining methods and having low output. About 300 underground mines were in production in the nonfuel minerals sector, most of which also were operated manually.

Employment in the minerals industry was estimated to exceed 1 million, or about 4.5% of the employed labor force, with the public sector employing about 90% of the total.

India had a sizable, integrated aluminum industry based on domestic bauxite deposits, which were estimated to comprise about 10% of the world's total. Aluminum remained the sole nonferrous metal for which India had an adequate raw material base.

Hindalco Industries Ltd. implemented during the year two expansions at its Renukoot Smelter in Uttar Pradesh, first increasing capacity 20,000 metric tons per year (t/yr) from 170,000 t/yr, and then achieving an additional 30,000 t/yr of capacity near yearend, for a total of 210,000 t/yr.

Indian Aluminium Co. Ltd. (INDAL) postponed its plans to install a 700-megawatt (MW) powerplant at its Belgaum aluminum smelter in the southern State of Karnataka. The smelter was closed in 1992 as a result of a 36% increase in the cost of energy supplied by the State Government, but was reopened in 1994 at reduced capacity in response to the worldwide rise in aluminum prices. The smelter's output in 1994 was only 18,000 t/yr of aluminum, and INDAL does not consider an increase in the capacity of the plant to be a viable option.

Some of the equipment from the Belgaum Smelter was transferred to INDAL's smelter at Hirakud in Orissa State, where capacity was expanded to 30,000 t/yr.

More than one-half of India's chrome ore mines were in the

districts of Cuttack, Dhenkanal, and Keonjhar in Orissa State, while the others were distributed relatively evenly among the States of Andhra Pradesh, Bihar, Karnataka, Maharashtra, and Manipur. The major chromite mining companies were Tata Iron and Steel Co. Ltd. (TISCO), Orissa Mining Corp. Ltd. (OMC), Ferro Alloys Corp. Ltd., Mysore Minerals Ltd., and Indian Metals and Ferro Alloys Ltd.

A dispute between TISCO and OMC over access to reserves in Orissa State resulted in litigation during the year. TISCO sought to renew its chromite ore mining lease, covering 1,261 hectares (ha), in Orissa's Sukinda Valley in 1992 after holding that lease for 20 years. However, the High Court of Orissa State awarded only about one-third (406 ha) to the original lessee, TISCO, and the remaining approximately two-thirds (855 ha) to OMC. TISCO has appealed the decision to India's Supreme Court.

India's State-owned Hindustan Copper Ltd. (HCL) produced the majority of the country's mined copper from 10 mines. HCL also operated the country's copper smelters and refineries. Important, but smaller, mines were operated by Sikkim Mining Corp. and Hutti Gold Mines in Karnataka State. More than 90% of India's copper ore reserves were in the States of Bihar, Madhya Pradesh, and Rajasthan.

The Kerala State Industrial Development Corp. signed a memorandum of understanding (MOU) with Kochi-based Kerala Copper and Chemicals Ltd. (KCCL) to construct a greenfield copper refining plant for the production of 5,000 t/yr of copper cathode using secondary raw materials such as copper dross and ashes as feed. KCCL had a technology transfer agreement with U.S.-based Mountain States Research and Development International for the extraction of copper using the latest solvent extraction-electrowinning technology. Australia's Allied Ventures reportedly would be an important supplier of copper scrap.

The first phase of KCCL's project was scheduled to be ready for commercial production in July 1996. In a second phase, KCCL was proposing to establish an integrated smelting facility for treating copper concentrates.

Master Alloys Ltd. planned to install a 40,000-t/yr copper refinery and smelter near Pondicherry, 200 kilometers (km) from Madras in southern India. The copper complex was to begin operating in June 1997. The company was considering using either the Ausmelt, Outokumpu, or Boliden technology, but would not be making the decision until early 1996.

Although India was one of the world's largest consumers of gold, spurred by the Government's 1992 decision to permit nonresident Indians to bring into the country up to 5 kilograms of gold per person for a nominal duty (22 rupees or about \$0.64 per gram), domestic production has waned profoundly in recent years, and the country was only producing about 2 t/yr. About one-half was produced by the activities of numerous small-scale miners, mainly unorganized independent prospectors.

Government-owned Bharat Gold Mines Ltd. mined gold from a number of mines in the Kolar Goldfields, Karnataka State, one of the oldest gold mining areas in the world. Production from the Kolar fields began in 1882. A small amount of gold also was produced as a byproduct of copper refining.

The Government approved in November a joint-venture agreement between the ailing Bharat Gold Mines and Singapore-based Normandy Anglo Asian Pvt. Ltd. for exploration of gold from shallow mining operations. The equity participation had not been decided by yearend, however. The joint venture formed part of the rehabilitation program developed for the company by the Industrial Credit and Investment Corp. of India under a directive issued by the Board for Industrial and Financial Reconstruction. Additionally, the Indian Government was selling the tailings owned by the loss-producing company from which the easily recovered gold had already been extracted. The Government was going to sell to bidders from Australia, Canada, and the United States who have developed the technology to extract more of the remaining gold.

India was a major producer of iron ore, which was used to produce steel for domestic use as well as for export by two State-owned enterprises, the National Mineral Development Corp. Ltd. (NMDC) and the Kudremukh Iron Ore Co. Ltd. (KIOCL). Numerous iron ore mines in the country had an estimated combined capacity of 60 million metric tons per year (Mt/yr).

The country has abundant deposits of hematite and magnetite iron ores. Hematite occurs mostly in the States of Bihar, Goa, Karnataka, Madhya Pradesh, Maharashtra, and Orissa. Magnetite deposits, most being of metallurgical grade, occur in Andhra Pradesh, Goa, Karnataka, and Kerala States. Madhya Pradesh was the leading producing State in 1995, with Goa, Karnataka, Bihar, Orissa, and Maharashtra following in order.

NMDC operated the country's largest mechanized iron mines at Bailadila, Madhya Pradesh State, and at Donimalai, Karnataka State. Output from the two mines was about 9 Mt/yr, but output was scheduled to be doubled by March 1997. KIOCL operated the country's largest single mine, the Kudremukh, 110 km east of the southern port city of Mangalore in Karnataka State.

The country had seven integrated steel plants (ISP) and numerous scrap-based minimills with a combined capacity of about 24 Mt/yr. The Government's Steel Authority of India Ltd. (SAIL) owned five ISP, namely Bhilai ISP, Madhya Pradesh State; Bokaro ISP, Bihar State; Durgapur ISP, West Bengal State; Rourkela ISP, Orissa State; and Burnpur ISP, West Bengal State, the steelworks operated since 1979 by Indian Iron and Steel Co. Ltd., a wholly owned subsidiary of SAIL. The Visakhapatnam ISP, Andhra Pradesh State, owned and operated by the public-sector corporation Rashtriya Ispat Nigam Ltd. (Vizag), was commissioned near yearend 1989. The only privately owned ISP in India, the steelworks at Jamshedpur, Bihar State, was operated by TISCO.

The Government announced at yearend its plans to abolish the Engineering Goods Export Assistance Fund, which was financed by about a \$9 per ton levy on products from the main steel producers. Between \$5 and \$6 million have been collected monthly through this levy, about 60% of it from SAIL and the rest from TISCO and Vizag. The mills were expected to benefit from revocation of the fund, either by leaving the net sales price unchanged after the levy was revoked so as to increase profit margin, or by reducing prices to stimulate higher sales.

Substantial quantities of lead and zinc were produced from the same mines in the State of Rajasthan by HZL, the country's sole producer of both metals. HZL also mined lead without zinc in the States of Andhra Pradesh and Orissa. HZL operated the country's three primary lead and three of the four primary zinc smelter-refinery complexes; the remaining primary smelter-refinery was operated by Binani Zinc Ltd., producing zinc from imported concentrates.

The private-sector Indian Lead Pvt. Ltd. produced secondary lead from indigenous and imported lead scrap and lead concentrates at plants at Phane, Maharashtra State, and Kalipara, West Bengal State.

The Government-owned Manganese Ore (India) Ltd. announced at yearend its plans to initiate a major modernization program at its Balaghat Mine in Madhya Pradesh State. Reportedly the deepest manganese mine in the world, Balaghat has reached a depth of 240 meters in 8 levels; a 9th level was under development.

The Atomic Minerals Div. within the DAE was responsible for conducting radiometric and geological surveys and for the exploration and development of various mineral resources necessary for the country's nuclear power program.

The Uranium Corp. of India Ltd. (UCIL) within the DAE operated uranium mines at Jaduguda and Bhatin; a uranium mill at Jaduguda; and uranium recovery plants at Mosaboni, Rakha, and Surda, all in Bihar State. UCIL also had the capability of recovering other metals and minerals as byproducts, such as copper, magnetite, and molybdenite.

Cement production capacity has risen dramatically since the early 1980's, from about 26 Mt to more than 75 Mt, following price and distribution decontrol. Most of the new capacity, about 69 Mt, was derived from large-scale, highly efficient, predominantly privately owned plants. India's cement industry recently has become the fifth largest in the world after China, the United States, Japan, and the Commonwealth of Independent States.

Calcutta-based KHSL Industries Ltd., a maker of refractory raw materials, announced in July that it would purchase a 63.5-MW powerplant from South Africa to power a cement joint venture. The plant was originally set up by the Italian company Ansaldo Energia SpA. in a segregated black South African homeland, but before the plant could be commissioned, the first multiracial elections were held in South Africa, thereby making the plant superfluous to that country's surplus of power, even though the black homelands themselves were energy deficient. KHSL was to pay \$60 million for the unused, secondhand plant, which reportedly was ideally suited for Indian usage in that it could operate using coal with up to a 47% ash content. India's cement industry was dependent entirely on coal, including lignite as a supplement in the southern regions of the country, as the fuel for its kilns.

The NMDC produced most of the country's modest diamond output from its diamondiferous kimberlite mines at Wajrakarur, Andhra Pradesh. A small quantity of diamond also was produced in Orissa State.

India's diamond industry, the world's largest in terms of employment, quantity, and value, primarily was dependent on

imported materials for processing and reexport. India processed an estimated 65% of the world's rough diamonds and had about 45% of the world trade in finished diamonds, mainly small stones for use in lower priced jewelry. The majority of the cutting and polishing plants were in Bombay, Maharashtra State, and Surat, Gujarat State, receiving their imported material predominantly from de Beers' Central Selling Organization in the United Kingdom.

Australia's Renison Goldfields Consolidated Ltd. (RGC) signed in February a MOU with Indian participants Chemicals and Plastics India Ltd. (Chemplast), Indian Rare Earths Ltd. (IRE), and Kerala Minerals and Metals Ltd., a Government of Kerala (GOK) state enterprise, to evaluate a mineral sands project about 90 km north of the city of Trivandrum, Kerala, on India's southwest coast. The participants will be looking at the feasibility of developing a mineral sands and synthetic rutile project in the State. The initial equity in the proposed joint venture was to be shared equally between IRE-GOK, as one entity, RGC, and Chemplast. Project estimates indicated there was sufficient ilmenite feed for a synthetic rutile plant to produce 120,000 t/yr for a minimum of 15 years.

Canada's QIT-Fer et Titane (QIT) was negotiating with the Indian Government and IRE for an equity share in IRE's Orissa Sands Complex (OSCOM) in Orissa State to increase the rate of ilmenite production at OSCOM to provide ilmenite feedstock suitable for making chloride-grade slag at QIT's smelting facilities at Sorel in Canada. Final details were not known by yearend.

Rama Phosphates Ltd. (RPL) announced in midyear plans to build a new 400-metric-ton-per-day (t/d) single super phosphate (SSP) plant in Udaipur, Rajasthan State. The new plant was estimated to cost \$3.8 million, and was scheduled to come on-stream early in 1996. Plans for the new unit also included a second expansion phase, raising capacity to 600 t/d.

RPL used phosphate rock from Rajasthan State Mines and Minerals Ltd. (RSMM) at its 132,000 t/yr SSP Indore plant in Madhya Pradesh. RSMM also was to supply the new plant at Udaipur; the finished product was to be marketed in the States of Gujarat, Madhya Pradesh, and Rajasthan. RPL merged in October 1994 with Krishi Rasayan Ltd., which operated a 120,000 t/yr SSP plant at Pune, Maharashtra. As a condition of the merger, RPL agreed to expand the plant at Pune to a capacity of 144,000 t/yr; this expansion was in progress during the year.

Kutch Minerals Ltd., operating in the china clay, fireclay, and silica sand extraction and processing industry, announced early in the year plans to expand and modernize its existing projects in Manfara Village, in Kutch, India. Kutch Minerals was planning to expand its china clay production capacity from 10,000 t/yr to 30,000 t/yr, as well as set up facilities for the production of 90,000 t/yr of silica sand.

Coal was India's principal source of commercial energy, producing an estimated two-thirds of the country's requirements, almost all of which was produced domestically. The Government-owned Coal India Ltd. (CIL) was the country's largest producer, with about 90% of output, and also was responsible for administering all coal exploration and

distribution programs. The bulk of production was from open-cast mines; underground mines provided for less than 30% of production, but accounted for more than 65% of CIL personnel involved in mining. Coal mining in the private sector was permitted only for captive consumption by steel plants. However, the coking properties of Indian coals were poor because of a very high ash content and low calorific value; therefore, metallurgical-grade coals were imported, primarily from Australia. India's coal industry in 1995 was the fifth largest in the world.

Indian coals were ranked as either bituminous or lignite, the country having no anthracite deposits. The main bituminous coalfields are in the central and eastern States of Bihar, Madhya Pradesh, Orissa, and West Bengal. The lignite deposits are predominantly in the southern part of the country. About 80% of the country's known lignite occurs in Tamil Nadu State, with deposits also known in the States of Gujarat, Kerala, Rajasthan, and Jammu and Kashmir. The central Government-owned Neyveli Lignite Corp. (NLC) was the country's sole producer. In addition to the mines, the NLC integrated complex consisted of two thermal power stations, a fertilizer plant, and a briquetting and carbonization plant.

The central Government initiated a judicial investigation following serious coal mining accidents causing the deaths of numerous miners during torrential rains in late September and early October. The miners were believed to have drowned, or to have been buried by collapsing walls and roofs, in Bharat Coking Coal Ltd.'s Ajalgunj and Chaitudih Mines in the eastern State of Bihar when flood waters from the Gasitand River filled the underground tunnels. Bharat, a wholly owned subsidiary of CIL, immediately suspended operations at its 92 mines until adequate safety measures were achieved.

CIL was seeking \$500 million in direct funding from the World Bank and a similar sum in cofunding from Japan's Export-Import Bank to increase production by more than 40 Mt/yr in a program to develop or improve 33 mines. The new developments included South Eastern Coalfields Ltd.'s underground operations at Bangwar, Bhrabandh, Churcha West, Kurja, Pandavpara, Piparia, Singhali, and Somna; Mahanadi Coalfields Ltd.'s mines at Lakhanpur and Samleswari; and Central Coalfields Ltd.'s Parej East.

The Nuclear Power Corp. of India Ltd., under the auspices of the DAE, operated nuclear power stations at five sites within India, as follows: 1. Tarapur Atomic Power Station Units I and II, each having the capacity of generating 160 MW, at Tarapur, Maharashtra State. 2. Rajasthan Atomic Power Station Unit I having a capacity of 100 MW and Unit II with a capacity 200 MW, at Rawatbhata, near Kota in Rajasthan State. 3. Madras Atomic Power Station Units I and II, each having the capacity of generating 220 MW, at Kalpakkam near Madras in Tamil Nadu State. 4. Narora Atomic Power Station Units I and II, each having the capacity of generating 220 MW, at Narora in Uttar Pradesh State. 5. Kakrapar Atomic Power Station Unit I having a capacity of 220 MW at Kakrapar in Gujarat State; the station's Unit II, also of 220 MW capacity, was nearing the commissioning phase process at yearend.

Also, four units at two stations having 220 MW capacities at

each unit also were nearing their commissioning processes. Additionally, the construction work at two units that each will have 220 MW of capacity was in progress at Kaiga, Karnataka State, as were two additional units at the Rawatbhata, Rajasthan State site, each also to have 220 MW of generating capacity.

The central Government administered the petroleum and natural gas industry of the country from exploration to the marketing of refined petroleum products until 1994 when the industry began to open up as part of the country's economic reforms initiated in 1991. Two State-owned companies, Oil and Natural Gas Corp. Ltd. and Oil India Ltd., conducted exploration for hydrocarbons and developed suitable discoveries for production until the Indian Cabinet early in the year cleared the way for foreign companies to conduct joint oil and gas exploration programs, both onshore and offshore, with the two Government enterprises. Six fundamentally Government-owned companies operated the country's petroleum refineries; they were all wholly owned Government entities until joint ventures were allowed to be forged in 1994. Imports and exports of crude oil and refined petroleum products were managed by Indian Oil Corp., the largest of the refining companies. Crude petroleum provided about 30% of the country's energy needs, with about 60% of this derived from imported stocks.

Construction of eight oil refineries by local companies was begun early in the year in an effort to more than double India's refining capacity by the end of the century. This does not include export-oriented refinery projects, nor those by foreign firms such as Malaysia's Petronas or the Royal Dutch/Shell Group, which were pursuing separate proposals. The last Indian refinery to be commissioned was a unit for the Indian Oil Corp. in 1982.

¹Where necessary, values have been converted from Indian rupees (Rs) to U.S. dollars at the rate of Rs34.29=US\$1.00.

²The Indian fiscal year begins on Apr. 1 and ends on Mar. 31.

Major Sources of Information

Geological Survey of India

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Major Publications

Ministry of Steel and Mines, Indian Bureau of Mines, Nagpur:
Monthly Statistics of Mineral Production, Indian Minerals

Yearbook.
Ministry of Planning, Department of Statistics, Central
Statistical Organization, New Delhi: Monthly Abstract of
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TABLE 1
INDIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/ METALS	1991	1992	1993	1994	1995 e/
Aluminum:					
Bauxite, gross weight thousand tons	4,735	4,898	5,227 r/	4,809 r/	4,800
Alumina, Al ₂ O ₃ equivalent e/ do.	1,700	1,700	1,800	2,000	2,000
Metal, primary	504,000	496,300	466,423	472,000 r/	463,200
Cadmium metal	271	313	255	216 r/	251 3/
Chromium: Chromite, gross weight	939,597	1,158,050 r/	1,026,024 r/	1,021,846 r/	1,230,000
Copper:					
Mine output, Cu content	50,430 r/	49,036 r/	49,416 r/	45,944 r/	63,000
Metal, primary:					
Smelter	45,531 r/	47,712	37,372	51,232 r/	48,600
Refinery					
Electrolytic (cathode)	38,600 r/	38,300 r/	30,100 r/	40,100 r/	32,200 3/
Fire refined	8,600 r/	8,500 r/	6,700 r/	8,900 r/	7,300 3/
Total	47,200 r/	46,800 r/	36,800 r/	49,000 r/	39,500 3/
Gold metal, smelter kilograms	1,973	1,762	2,003	2,244 r/	2,300
Iron and steel:					
Iron ore and concentrate:					
Gross weight thousand tons	56,880	54,870	57,375 r/	58,388 r/	59,000
Fe content do.	36,403	35,117	36,720 r/	37,368 r/	37,800
Metal:					
Pig iron do.	14,176	15,126	15,674	17,808 r/	18,626 3/
Direct-reduced iron do.	1,153 r/	1,437 r/	2,208	3,122 r/	4,280 3/
Ferrous alloys:					
Ferrochromium (including charge chrome)	229,477	256,831	234,500	251,459	300,000
Ferrosilicon e/	8,800 /3	9,000	8,000	8,000	9,000
Ferromanganese e/	211,000	198,000	137,291 3/	150,000	150,000
Ferrosilicon	85,300	90,000	67,600	85,000 e/	85,000
Silicomanganese e/	70,000	93,000	85,000 3/	90,000	90,000
Other e/	6,767 3/	6,500	8,600	8,500	8,500
Steel, crude thousand tons	17,100	18,117	18,155	19,285 r/	20,291 3/
Semimanufactures e/ 4/ do.	11,600	12,000	9,000	11,000	11,000
Lead:					
Mine output, Pb content	25,068	30,500	26,000	30,500 r/	28,500 3/
Metal, refined:					
Primary e/	30,600	40,800	32,500 r/	38,600 r/	34,600
Secondary e/	17,200	22,900	18,200 r/	21,700 r/	19,500
Total	47,800	63,700	50,700 r/	60,300 r/	54,100 3/
Manganese:					
Ore and concentrate, gross weight thousand tons	1,401	1,810	1,655	1,632 r/	1,650
Mn content e/ do.	532	687	628	620 r/	627
Rare-earth metals: Monazite concentrate, gross weight e/	4,000	4,000	4,600	4,600	5,000
Selenium e/ kilograms	4,000	9,700	13,500	14,000	15,000
Silver, mine and smelter output do.	31,758	47,371	51,228	50,305 r/	39,800
Titanium concentrates, gross weight:					
Ilmenite e/	311,537 3/	300,000	320,000	300,000	300,000
Rutile e/	13,635 3/	10,000	13,900	14,000	14,000
Tungsten, mine output, W content	11	2 r/	1	2 r/	2
Zinc:					
Mine output, concentrate:					
Gross weight	163,474	300,140 r/	300,736 r/	270,382 r/	288,700
Zn content	104,500	152,800	156,300	147,300 r/	157,300 3/
Metal:					
Primary	83,600 r/	128,100	141,700	156,400 r/	146,500 3/
Secondary e/	200	200	200	500	500
Total e/	83,800 r/	128,300	141,900	156,900 r/	147,000
Zirconium concentrate: Zircon, gross weight e/	18,200	18,000	17,000	18,000	18,000
INDUSTRIAL MINERALS					
Abrasives, natural, n.e.s.:					
Corundum, natural	64	22 r/	15 r/	11 r/	10
Garnet	8,984	16,573 r/	47,785 r/	55,623 r/	55,000
Jasper	5,013	4,422 r/	5,627 r/	4,577 r/	5,000
Asbestos	24,094	43,683	44,080 r/	28,869 r/	30,000
Barite	615,000	458,436	547,875 r/	566,393 r/	575,000
Bromine, elemental e/	1,300	1,300	1,400	1,400	1,500

See footnotes at end of table.

TABLE 1--Continued
INDIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1991	1992	1993	1994	1995 e/
INDUSTRIAL MINERALS--Continued					
Cement, hydraulic e/	51,000	50,000	53,812 3/	54,000	55,000
Chalk	128,424	104,833 r/	98,966 r/	109,928	110,000
Clays:					
Ball clay	316,522	227,585	336,880	349,986 r/	350,000
Diaspore	9,248	10,393 r/	12,197	9,463 r/	10,000
Fireclay	403,000	458,674 r/	439,950 r/	397,435 r/	400,000
Kaolin:					
Salable crude	628	514 r/	519	548 r/	550
Processed	113	124 r/	129	134 r/	150
Total	741	638 r/	648	682 r/	700
Other	14 e/	42 r/	40 r/	50 r/	50
Diamond:					
Gem e/	15	15	13 r/	15	13
Industrial e/	3	3	7 r/	3	7
Total	18	18	20 r/	18	20
Feldspar	65,089	67,743	66,792 r/	65,001 r/	65,000
Fluorspar:					
Concentrates:					
Acid-grade	9,700	7,062	7,798	6,112 r/	8,000
Metallurgical-grade	14,439	13,572	13,846	15,783 r/	15,000
Total	24,139	20,634	21,644	21,895 r/	23,000
Other fluorspar materials, graded	8,218	2,666	4,782 r/	3,415 r/	4,000
Gemstones excluding diamond:					
Agate including chalcedony pebble	549	674 r/	680	641 r/	700
Garnet	1,187	616 r/	1,058	533 r/	750
Graphite 5/	69,922	72,996	82,398 r/	91,271 r/	90,000
Gypsum	1,553,000	1,300,868	1,804,661	1,675,830 r/	1,600,000
Kyanite and related materials:					
Kyanite	30,020	10,101	11,600 r/	6,262 r/	10,000
Sillimanite	11,600	18,837	15,563 r/	9,962 r/	15,000
Lime e/	820,000	850,000	860,000	860,000	900,000
Magnesite	539,000 e/	602,506	408,971	333,368 r/	400,000
Mica: 6/					
Crude	3,607	2,742 r/	2,082	2,041 r/	2,100
Scrap and waste	1,922	1,522 r/	1,187 r/	703 r/	900
Total	5,529	4,264 r/	3,269 r/	2,744 r/	3,000
Nitrogen: N content of ammonia	7,132	7,452	7,176 r/	7,334 r/	7,713 3/
Phosphate rock including apatite	610,100	487,824 r/	969,385 r/	1,176,451	1,250,000
Pigments, mineral: Natural: Ocher	155,563	142,478 r/	138,210 r/	157,900 r/	160,000
Pyrites, gross weight	128,000	134,522 r/	116,930	117,033 r/	120,000
Salt: e/					
Rock salt	3	3 3/	3 3/	3	3
Other	9,500	9,500	9,500	9,500	9,500
Total	9,503	9,503	9,503	9,503	9,503
Sodium carbonate e/	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Stone, sand and gravel:					
Calcite	98,236	67,185 r/	69,804 r/	66,480 r/	70,000
Dolomite	2,568	2,905 r/	3,498	3,105 r/	3,000
Limestone	71,021	75,173 r/	82,095 r/	86,199 r/	90,000
Quartz and quartzite	251	290 r/	248 r/	224 r/	250
Sand:					
Calcareous	117	71 r/	272	183 r/	150
Silica	1,924	1,316	1,148 r/	1,246 r/	1,300
Other	1,652	1,316 r/	1,540 r/	1,700 r/	2,000
Slate	23,578	15,282 r/	12,134 r/	7,319 r/	8,000
Sulfur:					
Content of pyrites e/	30,000	30,000	36,000	38,000	40,000
Byproduct:					
From metallurgical plants e/	92,000	116,000	123,000	177,000 r/	200,000
From oil refineries	26,000	26,000	31,000	36,000 e/	35,000
Total e/	148,000	172,000	190,000	251,000 r/	275,000

See footnotes at end of table.

TABLE 1--Continued
INDIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1991	1992	1993	1994	1995 e/	
INDUSTRIAL MINERALS--Continued						
Talc and related materials:						
Pyrophyllite	84,557	79,197 r/	82,269 r/	86,160 r/	86,000	
Steatite (soapstone)	424,000 e/	368,003 r/	385,121 r/	371,580 r/	370,000	
Vermiculite	1,768	1,609	1,485 r/	1,789 r/	1,800	
Wollastonite	61,358	57,998 r/	80,748 r/	78,648 r/	80,000	
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	thousand tons	229,280	233,883 r/	246,041 r/	252,293 r/	255,000
Lignite	do.	15,970	16,114 r/	17,086 r/	18,936 r/	20,000
Total	do.	245,250	249,997 r/	263,127 r/	271,229 r/	275,000
Coke: e/						
Coke oven and beehive	do.	13,000	13,000	13,000	14,000	14,000
Gashouse	do.	100	100	100	100	100
Other, soft	do.	200	200	200	200	200
Total	do.	13,300	13,300	13,300	14,300	14,300
Gas, natural:						
Gross	million cubic meters	11,532	15,917	16,283 r/	15,293 r/	16,000
Marketable e/ 7/	do.	7,500	7,500	10,900	11,000	11,000
Petroleum						
Crude	thousand 42-gallon barrels	234,700	208,400	201,461 r/	234,582 r/	250,000
Refinery products: e/						
Liquefied petroleum gas	do.	20,000	20,000	31,800 r/ 3/	20,000	20,000
Gasoline	do.	23,000	23,000	30,300 r/ 3/	23,000	23,000
Kerosene and jet fuel	do.	53,000	53,000	55,100 r/ 3/	53,000	53,000
Distillate fuel oil	do.	122,000	122,000	136,150 r/ 3/	122,000	122,000
Residual fuel oil	do.	56,000	56,000	74,800 r/ 3/	56,000	56,000
Lubricants	do.	4,000	4,000	4,000 3/	4,000	4,000
Other	do.	67,000	67,000	84,300 r/ 3/	67,000	67,000
Total	do.	345,000	345,000	416,450 r/ 3/	345,000	345,000

e/ Estimated. r/ Revised.

1/ Table includes data available through June 14, 1996.

2/ In addition to commodities listed, other clays (bentonite, common clays, and fuller's earth), other gemstones (aquamarine, emerald, ruby, and spinel), and uranium are produced but output is not reported, and available information is inadequate to make reliable estimates of output levels.

3/ Reported figure.

4/ Excludes production from steel miniplants.

5/ India's marketable production is 10% to 20% of mine production.

6/ The disparity between amounts of mica produced versus amounts exported is based on (a) stockpile, (b) illicit mines, and (c) occasional mining by others seeking additions to income nominally derived from other sources.

7/ Includes reinjected gas.

TABLE 2
INDIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity e/
Alumina	Indian Aluminium Co. Ltd. Indian interests, 60.4%, and Alcan Aluminium Ltd. (Canada), 39.6%	Belgaum Refinery, Karnataka	220
Do.	National Aluminium Co. Ltd., Indian Government, 100%	Dhamanjodi Refinery, Orissa	800
Do.	Bharat Aluminium Co. Ltd., Indian Government, 100%	Korba Refinery, Madhya Pradesh	200
Do.	Madras Aluminium Co. Ltd. Alumix SpA (Italian Government), 27%; R. Prabhu and Associates, 24%; Tamil Nadu Industrial Investment Corp., 11%, and others, 38%	Mettur Refinery, Tamil Nadu	60
Do.	Indian Aluminium Co. Ltd. Indian interests, 60.4%, and Alcan Aluminium Ltd. (Canada), 39.6%	Muri Refinery, Bihar	72
Do.	Hindalco Industries Ltd. Birla Group, 33%; foreign investors, 26%; private Indian investors, 23%; and financial institutions, 18%	Renukoot Refinery, Uttar Pradesh	350
Aluminum	Indian Aluminium Co. Ltd. Indian interests, 60.4%, and Alcan Aluminium Ltd. (Canada), 39.6%	Alupuram Smelter, Kerala	20
Do.	National Aluminium Co. Ltd., Indian Government, 100%	Angul Smelter, Orissa	218

See footnotes at end of table.

TABLE 2--Continued
INDIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum--Continued	Indian Aluminium Co. Ltd. Indian interests, 60.4%, and Alcan Aluminium Ltd. (Canada), 39.6%	Belgaum Smelter, Karnataka	70
Do.	do.	Hirakud Smelter, Orissa	30
Do.	Bharat Aluminium Co. Ltd., Indian Government, 100%	Korba Smelter, Madhya Pradesh	100
Do.	Madras Aluminium Co. Ltd. Alumix SpA (Italian Government), 27%; R. Prabhu and Associates, 24%; Tamil Nadu Industrial Investment Corp., 11%; and others, 38%	Mettur Smelter, Tamil Nadu	25
Do.	Hindalco Industries Ltd. Birla Group, 33%; foreign investors, 26%; private Indian investors, 23%; and financial institutions, 18%	Renukoot Smelter, Uttar Pradesh	210
Bauxite	Bharat Aluminium Co. Ltd., Indian Government, 100%	Amarkantak Mine, Madhya Pradesh	200
Do.	Indian Aluminium Co. Ltd. Indian interests, 60.4%, and Alcan Aluminium Ltd. (Canada), 39.6%	Kolhapur District mines, Maharashtra	600
Do.	Gujarat Mineral Development Corp., Gujarat State Government, 100%	Kutch and Saurashtra Mines, Gujarat	500
Do.	Hindalco Industries Ltd. Birla Group, 33%; foreign investors, 26%; private Indian investors, 23%; and financial institutions, 18%	Lohardaga District mines, Bihar	750
Do.	Indian Aluminium Co. Ltd. Indian interests, 60.4%, and Alcan Aluminium Ltd. (Canada), 39.6%	do.	200
Do.	National Aluminium Co. Ltd., Indian Government, 100%	Panchpatmali Hills, Koraput District mines, Orissa	2,400
Do.	Minerals & Minerals Ltd., Indian Government, 100%	Richuguta, Palamu District mines, Bihar	200
Barite	Andhra Pradesh Mineral Development Corp. Ltd. Andhra Pradesh State Government, 100%	Cuddapah District mines, Andhra Pradesh	350
Do.	Associated Mineral Corp., 100%	do.	75
Do.	Pragathi Minerals, 100%	do.	50
Do.	Shri C. M. Ram nath Reddy, 100%	do.	75
Do.	Vijaylaxmi Minerals Trading Co., 100%	do.	50
Cement	Larsen and Toubro Ltd., 100%	Awarpur Plant, Maharashtra	2,300
Do.	Century Cement. Century Textiles and Industries Ltd., a subsidiary of the Birla Group, 100%	Baikunth Plant, Madhya Pradesh	1,120
Do.	Coromandel Fertilizers Ltd. Chevron Chemical Co. (United States), 23.55%; International Minerals and Chemical Co., 20.89%; Parry and Co., 10.64%; E.I.D. Parry (India) Ltd., 6.65%; and others, 38.27%	Chilamkur Plant, Andhra Pradesh	1,000
Do.	The Associated Cement Cos. Ltd. Indian Government, 34.86% and private shareholders, 65.14%	Gagal Plant, Himachal Pradesh	1,830
Do.	Raymond Cement Works, a division of Raymond Woolen Mills Ltd. JK Singhania, principal shareholder	Gopalnagar Plant, Madhya Pradesh	1,250
Do.	Narmada Cement Co. Ltd. Chowgule and Co. Ltd., 34%; Gujarat State Government, 17.33%; and others, 48.67%	Jafrabad Plant, Gujarat	1,000
Do.	Rajashree Cement, a division of Indian Rayon and Industries Ltd., 100%	Khor Plant, Karnataka	1,020
Do.	The Associated Cement Cos. Ltd. Indian Government, 34.86% and private shareholders, 65.14%	Kymore Plant, Madhya Pradesh	1,500
Do.	Mangalam Cement Ltd., 100%	Morak Plant, Rajasthan	1,000
Do.	Mysore Cements Ltd. Government institutions and banks, 41.13%; Corporate Trust holdings, 21.70%; and others, 37.17%	Narasingarh Plant, Madhya Pradesh	1,089
Do.	Cement Corp. of India Ltd., Indian Government, 100%	Nayagaon Plant, Madhya Pradesh	1,330
Do.	J.K. Cement Works, a division of JK Synthetics Ltd., 100%	Nimbahera Plant, Rajasthan	1,462
Do.	The India Cement Co. Ltd. Indian Government, 26%; Life Insurance Corp. of India, 24%; and others, 50%	Sankarnagar Plant, Tamil Nadu	1,000
Do.	Maihar Cement. Century Textiles and Industries Ltd., a subsidiary of the Birla Group, 100%	Satna Plant, Madhya Pradesh	1,800
Do.	Shree Digvijay Cement Co. Ltd., 100%	Shreeniwas Plant, Maharashtra	1,060
Do.	Lakshmi Cement, a division of Straw Products Ltd. JK Singhania, principal shareholder	Sirohi Plant, Rajasthan	1,400
Do.	Manikgarh Cement. Century Textiles and Industries Ltd., a subsidiary of the Birla Group, 100%	Tehsil Rajura Plant, Maharashtra	1,000
Do.	Vasavadatta Cement. Kesoram Industries Ltd., 100%	Vasavadatta Plant, Karnataka	1,000
Do.	Vikram Cement. Grasim Industries Ltd., a subsidiary of the Birla Group, 100%	Vikram Plant, Madhya Pradesh	1,000
Do.	Raasi Cement Ltd. Andhra Pradesh Government, 50% and Development Co. Ltd., 50%	Vishnupuram Plant, Andhra Pradesh	1,000

See footnotes at end of table.

TABLE 2--Continued
INDIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement--Continued		The Associated Cement Cos. Ltd. Indian Government, 34.86% and private shareholders, 65.14%	Wadi Plant, Karnataka	2,180
Chromite		Ferro Alloys Corp. Ltd., 100%	Cuttack District, Orissa	100
Do.		The Orissa Mining Corp. Ltd., Orissa State Government, 100%	do.	200
Do.		Tata Iron & Steel Co. Ltd., 100%	do.	100
Do.		Ferro Alloys Corp. Ltd., 100%	Dhenkanal District, Orissa	75
Do.		The Orissa Mining Corp. Ltd., Orissa State Government, 100%	do.	200
Do.		Mysore Minerals Ltd., 100%	Hassan District, Karnataka	125
Do.		Ferro Alloys Corp. Ltd., 100%	Kendujhar District, Orissa	75
Do.		The Orissa Mining Corp. Ltd., Orissa State Government, 100%	do.	100
Do.		Ferro Alloys Corp. Ltd., 100%	Khammam District, Andhra Pradesh	100
Coal, bituminous	million tons	Bharat Coking Coal Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Bihar and West Bengal	26
Do.	do.	Central Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Bihar	27
Do.	do.	Eastern Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Bihar and West Bengal	21
Do.	do.	Mahanadi Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Orissa	21
Do.		North Eastern Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Assam	640
Do.	million tons	Northern Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Madhya Pradesh and Uttar Pradesh	24
Do.	do.	Singareni Collieries Co. Ltd., Andhra Pradesh State Government, 50%, and Indian Government, 50%	Andhra Pradesh	18
Do.	do.	South Eastern Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Madhya Pradesh	36
Do.	do.	Western Coalfields Ltd., a subsidiary of Coal India Ltd., Indian Government, 100%	Madhya Pradesh and Maharashtra	18
Coal, lignite	do.	Neyveli Lignite Corp. Ltd., Indian Government, 100%	Tamil Nadu	17
Copper		Hindustan Copper Ltd., Indian Government, 100%	Indian Copper Complex mines, Ghatsila District, Bihar	31
Do.		do.	Indian Copper Complex smelter-refinery, Ghatsila District, Bihar	16
Do.		do.	Khetri Copper Complex mines, Khetrinagar Rajasthan	15
Do.		do.	Khetri Copper Complex smelter-refinery, Khetrinagar District, Rajasthan	45
Do.		do.	Malanjkhand Copper Complex mines, Balaghar District, Madhya Pradesh	22
Ilmenite-rutile ore		Kerala Minerals and Metals Ltd., Kerala State Government, 100%	Chavara, Kerala	100
Do.		Indian Rare Earths Ltd., Indian Government, 100%	do.	200
Do.		do.	Ganjam, Orissa	220
Do.		do.	Manavalakurichi, Tamil Nadu	65
Iron and steel:				
Crude steel		Steel Authority of India Ltd., Indian Government, 100%	Bhilai steel plant, Madhya Pradesh	4,000
Do.		do.	Bokaro steel plant, Bihar	4,000
Do.		Indian Iron and Steel Co. Ltd., wholly owned subsidiary of Steel Authority of India Ltd., Indian Government, 100%	Burnpur steel plant, West Bengal	1,500
Do.		Steel Authority of India Ltd., Indian Government, 100%	Durgapur steel plant, West Bengal	1,600
Do.		Tata Iron and Steel Co. Ltd., 100%	Jamshedpur steel plant, Bihar	3,200
Do.		Steel Authority of India Ltd., Indian Government, 100%	Rourkela steel plant, Orissa	1,800
Do.		Rashtriya Ispat Nigam Ltd., 100%	Visakhapatnam steel plant, Andhra Pradesh	3,200
Do.		Mini-steel plants, privately owned	Located throughout India, approximately 160	4,700
Iron ore		Steel Authority of India Ltd., Indian Government, 100%	Bastar and Durg District, Madhya Pradesh	7,000
Do.		National Mineral Development Corp. Ltd., Indian Government, 100%	Bellary District, Karnataka	3,000
Do.		Kudremukh Iron Ore Co. Ltd., Indian Government, 100%	Chikmagalur District, Karnataka	7,500
Do.		Chowgule & Co. Pvt. Ltd., 100%	Goa	2,500
Do.		Dempo Mining Corp. Ltd., 100%	Goa	2,500
Do.		V.M. Salgaocar & Bros. Pvt. Ltd., 100%	Goa	2,500
Do.		Steel Authority of India Ltd., Indian Government, 100%	Kendujhar District, Orissa	3,000
Do.		Tata Iron and Steel Co. Ltd., 100%	do.	2,000
Do.		Indian Iron and Steel Co. Ltd., wholly owned subsidiary of Steel Authority of India Ltd., Indian Government, 100%	Singbhum District, Bihar	2,500

See footnotes at end of table.

TABLE 2--Continued
INDIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Iron ore--Continued	Tata Iron and Steel Co. Ltd., 100%	do.	3,500
Kyanite	Associated Mining Co., 100%	Bhandara District, Maharashtra	10
Do.	Maharashtra Mineral Corp. Ltd., 100%	do.	10
Do.	Bihar State Mineral Development Corp. Ltd., Bihar State Government, 100%	Singhbhum District, Bihar	10
Do.	Hindustan Copper Ltd., Indian Government, 100%	do.	22
Lead ore	Hindustan Zinc Ltd., Indian Government, 100%	Agnigundala Mine, Andhra Pradesh	72
Do.	do.	Sargipalli Mine, Orissa	150
Lead, primary	do.	Tundoo Smelter, Bihar	8
Do.	do.	Visakhapatnam (Vizag) Smelter, Andhra Pradesh	22
Lead-zinc ore	do.	Rajpura-Dariba Mine, Rajasthan	900
Do.	do.	Zawar mine group, Rajasthan	1,200
Magnesite	Burn Standard Co. Ltd., Indian Government, 100%	Salem, Tamil Nadu	150
Do.	Dalmia Magnesite Corp., 100%	do.	150
Do.	Tamil Nadu Magnesite Ltd., Tamil Nadu State Government, 100%	do.	150
Manganese ore 1/	Manganese ore (India) Ltd., Indian Government, 100%	Adilabad, Andhra Pradesh	NA
Do.	Falechand Marsingdas, 100%	Andhra Pradesh	NA
Do.	Manganese ore (India) Ltd., Indian Government, 100%	Balaghat, Madhya Pradesh	NA
Do.	J.A. Trivedi Bros., 100%	do.	NA
Do.	Sandur Manganese & Iron Ores Ltd., 100%	Bellary, Karnataka	NA
Do.	Manganese ore (India) Ltd., Indian Government, 100%	Bhandara, Maharashtra	NA
Do.	Eastern Mining Co., 100%	North Kanara, Karnataka	NA
Do.	Mysore Minerals Ltd., 100%	do.	NA
Do.	Manganese ore (India) Ltd., Indian Government, 100%	Keonjhar, Orissa	NA
Do.	Mangilah, Rungta (Pvt.) Ltd., 100%	do.	NA
Do.	Orissa Mining Corp. Ltd., 100%	do.	NA
Do.	Rungta Mines (Pvt.) Ltd., 100%	do.	NA
Do.	Serajuddin & Co., 100%	do.	NA
Do.	S. Lall & Co., 100%	do.	NA
Do.	Tata Iron and Steel Co. Ltd., 100%	do.	NA
Do.	Orissa Mineral Development Co. Ltd., 100%	Koraput, Orissa	NA
Do.	Orissa Mining Corp. Ltd., 100%	do.	NA
Do.	Mysore Minerals Ltd., 100%	Shimoga, Karnataka	NA
Do.	Aryan Mining & Trading Corp., 100%	Sundargarh, Orissa	NA
Do.	Orissa Manganese & Minerals (Pvt.) Ltd., 100%	do.	NA
Do.	Tata Iron and Steel Co. Ltd., 100%	do.	NA
Do.	R.B.S. Shreeram Durga Prasad and Falechand Marsingdas, 100%	Vizianagaram, Andhra Pradesh	NA
Petroleum thousand 42-gallon barrels per day	Cochin Refineries Ltd., a subsidiary of Oil and Natural Gas Corp., Indian Government, 55%, and private interests, 45%	Ambalamugal Refinery, Kerala	93,400
Do.	do. Indian Oil Corp., a subsidiary of Oil and Natural Gas Corp., Indian Government, 91%, and private interests, 9%	Barauni Refinery, Bihar	65,800
Do.	do. Bongaigaon Refinery and Petrochemicals Ltd., a subsidiary of Oil and Natural Gas Corp., Indian Government, 100%	Bongaigaon Refinery, Assam	27,110
Do.	do. Indian Oil Corp., a subsidiary of Oil and Natural Gas Corp., Indian Government, 91%, and private interests, 9%	Digboi Refinery, Assam	11,700
Do.	do. Indian Oil Corp., a subsidiary of Oil and Natural Gas Corp., Indian Government, 91%, and private interests, 9%	Guwahati Refinery, Assam	19,920
Do.	do. do.	Haldai Refinery, West Bengal	61,000
Do.	do. do.	Koyali Refinery, Gujarat	185,100
Do.	do. Madras Refineries Ltd., a subsidiary of Oil and Natural Gas Corp., Indian Government, 52%, and private interests, 48%	Madras Refinery, Tamil Nadu	130,660
Do.	do. Bharat Petroleum Corp. Ltd., a subsidiary of Oil and Natural Gas Corp., Indian Government, 67%, and private interests, 33%	Mahul Refinery, Bombay, Maharashtra	134,860
Do.	do. Industan Petroleum Corp. Ltd., a subsidiary of Oil and Natural Gas Corp., Indian Government, 51%, and private interests, 49%	do.	110,452
Do.	do. do.	Vizag Refinery, Andhra Pradesh	90,369
Do.	do. Indian Oil Corp., a subsidiary of Oil and Natural Gas Corp., Indian Government, 91%, and private interests, 9%	Mathura Refinery, Uttar Pradesh	156,000

See footnotes at end of table.

TABLE 2--Continued
INDIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Phosphate rock 2/	Rajasthan State Mineral Development Corp. Ltd., Rajasthan State Government, 100%	Badgaon, Dakankotra, Kanpur, Kharbaria-ka-Guda, and Sallopat Mines, Rajasthan	NA
Do.	Pyrites Phosphates and Chemicals Ltd., 100%	Durmala and Maldeota underground mines, Uttar Pradesh	NA
Do.	Madhya Pradesh State Mining Corp. Ltd., Pradesh State Government, 100%	Hirapur and Khatamba Mines, Madhya Pradesh	NA
Do.	Rajasthan State Mines and Minerals Ltd., Rajasthan State Government, 100%	Jhamarkotra Mine, Rajasthan	NA
Do.	Hindustan Zinc Ltd., Indian Government, 100%	Maton Mine, Rajasthan	NA
Zinc	Cominco Binani Zinc Ltd., 100%	Binanipuram Smelter, Kerala	20
Do.	Hindustan Zinc Ltd., Indian Government, 100%	Debari Smelter, Rajasthan	49
Do.	do.	Visakhapatnam (Vizag) Smelter, Andhra Pradesh	30

e/ Estimated. NA Not available.

1/ Capacity of clusters of surface mines varies extremely, depending on demand. Estimated total annual capacity is 1.5 million metric tons.

2/ Estimated total annual phosphate rock capacity is 800,000 metric tons.