



2015 Minerals Yearbook

PAKISTAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF PAKISTAN

By Karine M. Renaud

Pakistan is rich in such mineral resources as clays (including china clay and fireclay), copper, dolomite, gypsum, iron ore, limestone, marble (onyx), salt, sand and gravel, and silica sand; coal, natural gas and crude petroleum; and precious and semiprecious stones. The country is among the world's 11 leading producers of cement as well as one of the leading producers of barite and iron oxide pigments (table 1; Kuo, 2015; McRae, 2017; Tanner, 2017).

Minerals in the National Economy

Pakistan's real gross domestic product (GDP) increased by 5.5% in 2015 compared with an increase of 4.1% in 2014; the nominal GDP was \$270.0 billion. The GDP increased owing to growth in the services and construction sectors, increased domestic demand, increases in gas and electricity supplies, improvements in the security situation, a decrease in the price of petroleum imports, and investment in the China-Pakistan economic corridor; however, continued power shortages had a negative effect on the country's economy and constrained the rate of growth of the GDP. Pakistan's industrial production increased by 3.2% in 2015 compared with an increase of 4.5% in 2014, and accounted 20% of the GDP in 2015. The manufacturing sector accounted for 13.3% of the GDP compared with 13.5% in 2014. The rate of growth of the mining and quarrying sector was 3.8% in 2015 compared with a 1.6% (revised) rate of growth in 2014. In 2015, the mining and quarrying sector accounted 14.4% of industrial sector output and 2.9% of the GDP. Foreign direct investment (FDI) decreased by 54% to \$865 million in 2015 from \$1.87 billion (revised) in 2014. Petroleum and natural gas exploration was of major interest to foreign investors (Asian Development Bank, 2015, p. 172; Express Tribune, The, 2015a; Ministry of Finance, 2015b, p. VI, V, VI; United Nations Conference on Trade and Development, 2016, p. 198).

In 2015, Pakistan continued to have power shortages. In May, the Government opened the country's first solar powerplant, in Punjab Province; the powerplant was built by Tebian Electric Apparatus Stock Co. Ltd. In 2014, a memorandum of understanding was approved by India and Pakistan after the World Bank offered to finance a feasibility study and a transmission line with the capacity to carry electricity from a generated capacity of 1,200 megawatts (MW) from India to Pakistan. India had been expected to begin providing electricity to Pakistan in January 2015; however, according to Pakistan's Ministry of Water and Power, the purchase of electricity from India was stalled (Economic Times, The, 2014, 2015; World Bank, The, 2014; Zehra, 2015; United Nations Conference on Trade and Development, 2016, p. 198).

Government Policies and Programs

The National Mineral Policy (NMP) of 1995 was implemented by the Ministry of Petroleum and Natural Resources in

February 2014. Mineral resources, not including nuclear materials, such as uranium, are located in special Federal units, including Federally administered tribal areas, the Islamabad Capital Territory, and the International Offshore Water Territory. The NMP states that Provincial governments and other federating units are responsible for the regulation, detailed exploration, mineral development, and safety of these operations and for making decisions related to these activities. Federal Government responsibilities include geologic and geophysical surveying and mapping, national and international coordination, and formulation of national policies and plans. The Federal Government provides support and advice to the Provinces. Royalties on the mineral commodities produced are revised occasionally by the respective government and are paid to the Provincial governments and other federating units and to the Federal Government (Ministry of Petroleum and Natural Resources, 2013, p. 8, 18).

In 2015, Pakistan and China signed 51 agreements and a memorandum of understanding (MOU) for the China-Pakistan Economic Corridor (CPEC) project. China was projected to invest \$46 billion during the next 10 to 15 years for development of energy projects and highway routes—such as a western route through Balochistan and Khyber Pakhtunkhwa Provinces, an eastern route through Sindh and Punjab Provinces, and a central route that crisscrosses the country—as well as improvements to existing railways and pipelines. Of the \$46 billion, \$35 billion was expected to be invested in 21 energy projects, including coal, hydroelectric, liquefied natural gas, solar, and power transmission projects. The projects were expected to increase the country's electricity production capacity by 17,000 MW and to alleviate the energy crisis in Pakistan. Fourteen of the 21 projects were expected to account for the installation of 10,400 MW of new capacity by 2018 (Markey and West, 2016).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Production

Production of chalk decreased by 85%; dolomite, by 60%; crude magnesite, by 52%; sulfur (native), by 50%; bentonite, by 30%; barite, by 21%; fluorspar, by 14%; and phosphate rock (P_2O_5 content), by 6%. Production of coke increased by 165%, mineral pigments (natural ocher), by 87%; iron ore (gross weight), by 72%; kaolin, by 64%; silica sand, by 62%; soda ash (manufactured), by 58%; iron ore (Fe content), by 57%; marble, by 46%; talc and related materials, soapstone, by 41% each; chromium ore (gross weight and Cr_2O_3 content), 39% each; feldspar, by 37%; petroleum products, by 36%; caustic soda, by 25%; salt (in total), by 22%; gypsum, by 16%; pig iron and limestone, by 15% each; fireclay, by 11%; and lignite coal, by 6%. Data on mineral production are in table 1.

Commodity Review

Metals

Copper and Gold.—In 2015, despite such problems as the reduction in minable ore and the increase in the hardness of the ore, 13,056 metric tons (t) of copper (contained in ore) was produced at the Saindak Mine compared with 13,112 t in 2014. The Saindak copper and gold mine, which is located in the Chagai Hills in Balochistan Province, remained the only producing copper and gold mine in Pakistan. The agreement on mining licenses between Metallurgical Corporation of China Ltd. (MCC) and the Government for the Saindak copper and gold mine was extended until October 2017. The amount of gold produced in 2015 was not reported (Metallurgical Corporation of China Ltd., 2014, p. 21; 2015, p. 33).

The Reko Diq copper and gold deposit is located in northwestern Balochistan Province. The Reko Diq deposit was owned by Tethyan Copper Corp. (Pvt.) Ltd. (a joint venture of Antofagasta plc of the United Kingdom and Barrick Gold Corp. of Canada) (75%) and the government of Balochistan Province (25%). Tethyan conducted a feasibility study at Reko Diq in August 2010; the total mineral resources were estimated to be 1.27 billion metric tons (Gt) at grades of 0.54% copper and 0.24 gram per metric ton (g/t) gold, and the total Joint Ore Reserves Committee (JORC)-compliant inferred mineral resources were estimated to be 1.14 Gt at grades of 0.48% copper and 0.31 g/t gold. Reko Diq's proposed processing plant was expected to produce 200,000 metric tons per year (t/yr) of copper and 7,800 kilograms per year of gold from 600,000 t/yr of concentrate. A dispute had arisen concerning the ownership of the deposit and, in 2014, the International Centre for Settlement of Investment Disputes (ICSID) encouraged the Government of Pakistan and Tethyan to try to negotiate an out-of-court settlement. If the two sides could not reach a mutual agreement about the ownership, the activities on the project would be delayed, and arbitration would be suspended. In 2015, however, Tethyan's claim of ownership for the Reko Diq copper and gold mine was rejected by the government of Balochistan Province. Anticipated FDI in the Reko Diq copper and gold mining project was estimated to be \$3.3 billion (Barrick Gold Corp., 2006; Balochistan Development Authority, 2014; Express Tribune, The, 2015a, b, d; Tethyan Copper Co., 2016).

The Chagai Hills porphyry copper-epithermal gold project is located in Balochistan Province. In 2015, Lake Resources N.L. (Lake) of Australia, which held an interest in the Chagai Hills project through its wholly owned subsidiary Lake Mining Pakistan (Pvt.) Ltd., entered into two agreements—an exclusive rights agreement and associated shareholders agreement—with Colt Resources Middle East (CRME) of the United Arab Emirates [a subsidiary of Balochistan Chaghi Mining Resources (Pvt.) Ltd. (BCMR) and Aamir Resources Consultants (Pvt.) Ltd. (ARC)] for the Chagai Hills project. BCMR would hold a 60% interest in the Chagai Hills project; Lake, a 27.5% interest; and ARC, a 12.5% interest. BCMR planned to transfer \$1.9 million to Chagai Mining Resources (Pvt.) Ltd. to use for expanded exploration of the licensed area within 3 years. The Chagai Hills project, for which Lake Resources was granted an exploration license in 2009, contains three exploration

areas—the Amalaf, the Dasht-i-Gauran, and the Koh-i-Sultan prospects. The Amalaf prospect covers an area of 46.9 square kilometers (km²) and is located on the northern boundary of the Saindak copper-gold mine; the Dasht-i-Gauran prospect covers an area of 29.12 km² and is located west of the Reko Diq project; and the Koh-i-Sultan copper-gold prospect covers an area of 85.1 km² and is associated with intensively altered breccia and volcanics. Lake conducted drilling at Koh-i-Sultan in 2012. Drilling results included two samples—a 14-meter (m) sample that graded 2.20 g/t gold and 0.32% copper, and a 10-m sample that graded 2.96 g/t gold and 0.44% copper (Lake Resources N.L., 2014a, p. 1, 4, 6; 2014b, p. 2, 35; 2015, p. 1, 7).

Iron Ore and Iron and Steel.—In 2015, Pakistan produced 129,000 t of iron ore (Fe content) compared with 82,000 t in 2014. Pakistan Steel Mills Corp. (Pvt.) Ltd. (PSM), which was the only crude steel producer in the country, was expected to be privatized by 2015; however, the privatization process was delayed until June 2016. From June 10 through August 21, 2015, PSM stopped production owing to suspension of the gas supply by Sui Southern Gas Co. Ltd. because of unpaid bills. PSM's capacity utilization rate had decreased to 25% in May 2012 and to 19% in May 2013; by July 2013, PSM's capacity utilization rate had decreased further to 12% owing to a shortage of coke feedstock, raw materials, and capital (Kiani, 2013; Salman, 2013; Metal Bulletin, 2014, p. 11; Ministry of Finance, 2015a, p. 48; Pakistan Steel Mills Corp. (Pvt.) Ltd., 2015; Siddiqui, 2015).

Lead and Zinc.—The Duddar lead-zinc mine was a joint-venture project between MCC (75%), and Pakistan Mineral Development Corp. (PMDC) and the government of Balochistan Province (25%). Since 2012, production at the Duddar lead-zinc mine, which is located in the Lasbella District of Balochistan Province, was suspended owing to maintenance of the site, including the underground system. In July 2014, China Huaye Group Co. Ltd. of China (a subsidiary of MCC) won a bid for the Duddar lead-zinc mine project and began onsite repair and maintenance of the equipment. The company implemented trial production in the upper system of the shaft in December 2015 and planned to start working on the second stage of the plan in 2016 (table 2; Metallurgical Corporation of China Ltd., 2013, p. 23; 2014, p. 19; 2015, p. 22; 2016, p. 33).

Industrial Minerals

Cement.—In 2015, the production of cement increased by about 4% to 33.2 million metric tons (Mt) from 32 Mt owing to the development of new projects. D.G. Khan Cement Co. Ltd. planned to construct a new \$300 million cement plant near commercial hub west of Karachi. The production capacity of the new plant was expected to be between 2 and 2.5 Mt/yr of cement. The construction of the plant was expected to be completed in 2018. D.G. Khan Cement signed a contract in 2015 with Loesche GmbH of Germany to supply raw materials, cement, and coal gridding mills for a greenfield cement plant in Lasbella, Balochistan. The new plant was expected to produce 3.2 Mt/yr of cement, and the cost of construction was estimated to be \$300 million (table 1; Global Cement, 2015b, c; Express Tribune, The, 2015c).

Bestway Cement Co. Ltd., which was a subsidiary of Bestway Group, took over Lafarge Pakistan Cement Ltd. Bestway Cement had acquired a 75.86% share of Lafarge Pakistan in 2014, and it acquired another 12.07% share of Lafarge Pakistan in 2015. The acquisition of the Lafarge Pakistan cement plant in Chakwal, which had a production capacity of 2.5 Mt/yr of cement, increased Bestway Cement's production capacity to 8 Mt/yr of cement and made Bestway Cement the leading cement manufacturer in Pakistan (Global Cement, 2015a).

Soda Ash.—In 2015, production of soda ash increased by 58% to 449,000 t from 284,000 t in 2014. ICI Pakistan Ltd. produced 308,499 t of soda ash in 2015 and was the leading producer of soda ash in Pakistan. ICI Pakistan was planning to invest \$90 million at the facility in Khewra to expand its capacity to 500,000 t/yr from 350,000 t/yr. The expansion plan would be implemented in two phases. The first phase was expected to be completed at the end of 2017 (McCormick, 2015; News International, The, 2015; ICI Pakistan Ltd., 2016, p. 37).

Mineral Fuels

Coal.—In 2015, coal production increased by 6.0% to 3.28 Mt from 3.09 Mt in 2014 owing to the switch of power-producing companies and cement companies to coal fuel. Oracle Coalfields plc of the United Kingdom acquired a 30-year mining license for Block IV of the Thar lignite coalfield; it covers an area of 66.1 km² and is located in Sindh Province in southeastern Pakistan. The JORC-compliant assessment of the resources was an estimated 529 Mt (composed of measured, 151 Mt; indicated, 308 Mt; and inferred, 70 Mt). Oracle Coalfield's total resources were estimated to be 1.4 Gt. Oracle Coalfields conducted a technical feasibility study that indicated the possibility of open pit mining with a capacity of 5 Mt/yr of coal. The company signed an engineering procurement and construction framework agreement with Solar Electric Power Co. for the construction of a 600-MW-capacity powerplant and development of a 4-Mt/yr open pit mine. The Thar Coalfield Block IV coal mine and the 600-MW-capacity powerplant in the Thar Desert were included in the CPEC project in 2015. Oracle Coalfields formed a subsidiary, Thar Electricity (Private) Ltd., to build, own, and operate the powerplant in Block IV, which would be sponsored by Shangdong Electric Power Corp. of China (Oracle Coalfields plc, 2013, p. 2–3, 6; 2014a, p. 2; 2014b, p. 3; 2016a, p. x, 4–5, 10–11; 2016b, p. 1; Ministry of Finance, 2015b).

Outlook

The Government is actively trying to increase the energy supply in Pakistan by awarding petroleum exploration licenses, developing coalfields, and approving the use of grid-connected solar energy, the installation of rooftop solar panels, and the construction of highways and a railway as part of the CPEC project. These activities might lead to increased production of industrial minerals. The mineral industry is likely to expand as well owing to projected increases in construction and moderate expansions in mining and manufacturing. Lead and zinc production could restart at the Duddar lead-zinc mine in the near future; however, the Reko Diq copper and gold project is

most likely to be placed on hold until the issue of ownership is resolved between the government of Balochistan Province and Tethyan.

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TABLE 1
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Metric tons unless otherwise specified)

Commodity	2011	2012	2013	2014	2015
METALS					
Antimony	--	12	89	127	121
Bauxite, gross weight	9,033	30,223	27,000 ^r	30,200 ^r	31,092
Chromium ore:					
Gross weight	170,000 ^r	207,000	77,000 ^r	72,000 ^r	100,155
Cr ₂ O ₃ content	76,000 ^r	93,000	35,000 ^r	32,000 ^r	44,500
Copper, mine output, Cu content	18,016	19,211	13,500	13,122	13,056
Iron and steel:					
Iron ore, gross weight	430	384	252 ^r	255	438
thousand metric tons					
Fe content, 32%	138	123	81 ^r	82	129
do.					
Pig iron	358	198	165	142	163
do.					
Steel, crude	1,592 ^r	1,631 ^r	1,845 ^r	2,423 ^r	2,500
do.					
Lead, ore concentrates	2,268	--	--	--	--
Zinc, ore concentrates	19,457	--	--	--	--
INDUSTRIAL MINERALS					
Barite	32,000	49,000	70,000 ^r	153,808 ^r	121,575
Cement, hydraulic	29,163 ^r	30,183 ^r	31,460 ^r	31,960	33,232
thousand metric tons					
Chalk	1,422	1,500	1,021 ^r	689 ^r	100
Clays:					
Bentonite	30,840	16,520	22,000	44,000 ^r	31,000
Fireclay	274,042	408,000	410,000	428,000 ^r	473,906
Fuller's earth	4,200	6,906	19,000 ^r	9,914 ^r	10,396
Kaolin, china clay	14,000	22,000 ^r	16,000 ^r	14,000 ^r	22,989
Feldspar	23,254	53,235	20,000 ^r	38,000 ^r	52,000
Fluorspar	3,156	6,859	6,200 ^r	8,961 ^r	7,692
Gypsum, crude	1,131 ^r	1,173 ^r	1,253 ^r	1,436	1,660
thousand metric tons					
Magnesite, crude	4,908	5,444	4,400 ^r	4,457 ^r	2,136
Nitrogen, N content of ammonia	2,700	2,300	2,700	2,600	2,600
Phosphate rock:					
Gross weight	30,950	69,400	104,961	89,000	86,000
P ₂ O ₅ content ^e	6,000	13,200	20,000 ^r	17,000	16,000
Pigments, mineral, natural, ocher	36,078	42,107	37,769	27,507 ^r	51,534
Salt:					
Marine	315	292	297	300	300
thousand metric tons					
Rock	2,161 ^r	2,029 ^r	2,269 ^r	2,241	2,799
do.					
Total	2,476	2,321	2,566 ^r	2,541	3,099
do.					
Sand and gravel	38,215	--	381,863 ^r	387,971	--
Silica sand	260,000 ^r	371,000 ^r	308,000 ^r	222,000	359,000
Sodium compounds, n.e.s.					
Caustic soda	170 ^r	192 ^r	172 ^r	166	207
thousand metric tons					
Soda ash, manufactured	372	367	379	284 ^r	449
do.					
Stone:					
Dolomite	240	198	347 ^r	676 ^r	268
do.					
Limestone	33,784 ^r	37,700 ^r	37,110 ^r	38,641 ^r	44,252
do.					
Marble	1,133	1,751	4,000 ^r	2,200 ^r	3,219
do.					
Sulfur, native	28,000	26,000	27,000	32,000	14,888
Talc, and related materials, soapstone	114,100	110,000	78,000 ^r	80,289 ^r	113,509

See footnotes at end of table

TABLE 1—Continued
 PAKISTAN: PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Metric tons unless otherwise specified)

Commodity	2011	2012	2013	2014	2015	
MINERAL FUELS AND RELATED MATERIALS						
Coal, lignite, bituminous	thousand metric tons	3,285 ^r	2,958 ^r	2,995 ^r	3,085	3,275
Coke	do.	302	193	203	113	300
Gas, natural:						
Gross production	million cubic meters	42,362	43,806	42,617 ^r	41,937	41,900
Marketed production, sales ^e	do.	39,000	40,000	39,000 ^r	39,000	39,000
Petroleum:						
Crude	thousand 42-gallon barrels	24,000	25,000	30,000 ^r	34,232	33,995
Refinery products:						
Gasoline	do.	10,667	10,612	12,936	12,568 ^r	22,708
Jet fuel	do.	6,631	5,600	6,000	6,525 ^r	8,359
Kerosene	do.	903	987	1,131	1,223 ^r	1,589
Distillate fuel oil	do.	24,550	24,271	29,084	31,986	41,518
Residual fuel oil	do.	16,146	14,360	17,472	17,347	21,856
Lubricants	do.	1,393	1,473	1,414	1,348	1,533
Liquefied petroleum gas	do.	2,159	2,149	2,645	2,311	4,751
Other	do.	6,643	5,832	5,674	6,280	6,285
Total	do.	69,092	65,284	76,356	79,588	108,599
Uranium, processed:						
U ₃ O ₈ content		45	45	41 ^r	45	45
U content		38	38	35 ^r	38	38

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

¹Table includes data available through August 16, 2016.

²In addition to the commodities listed, abrasives, secondary aluminum, emery, natural gas liquids, and strontium minerals (celestite) were produced, but available information was not adequate to make reliable estimate of output. The Saindak copper mine produced gold and silver.

Source: Pakistan Bureau of Statistics, State Bank of Pakistan

TABLE 2
PAKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e	
Aluminum, secondary, smelter output	Canon Metal Works	Gujranwala	NA	
Do.	H. Gulam Qadir & Sons	do.	NA	
Do.	M. Siraj Din Mohammed Shafi	do.	NA	
Do.	Punjab Metal Works	do.	NA	
Do.	Noor Aluminium Co.	Karachi	NA	
Do.	Standard Aluminium	do.	NA	
Do.	Aluminum Co. of Pakistan Industries (Pvt) Ltd.	do.	1,500	
Do.	Japan Metal Industries	do.	1,500	
Do.	Khan Aluminum Industries	do.	2,700	
Do.	Kruddson Pvt Ltd.	do.	1,200	
Do.	Lucky Industries	do.	1,200	
Do.	Pakistan Cabled Ltd.	do.	2,500	
Do.	Pakistan Metal Industries	do.	4,000	
Do.	Chawala Chemical & Metal Industries	Lahore	NA	
Do.	Aluminum Co. of Pakistan Industries (Pvt) Ltd.	do.	1,200	
Do.	Alpha Aluminium Co.	do.	1,100	
Do.	Chauhan Industries	do.	120	
Do.	China Industries	do.	150	
Do.	Craft Aluminium	do.	300	
Do.	Khuram Industry	do.	300	
Do.	Pakistan Alco Products	do.	NA	
Do.	Shaheen Industries	do.	NA	
Do.	Sana Aluminium Industries	Peshawar	NA	
Do.	Hyder Industries	Sahiwal	NA	
Do.	Jilani Industries	do.	NA	
Antimony	MTEQ Pakistan (Pvt.) Ltd. (mining and manufacturing)	Vashouk and Dalbadin, Balochistan Province	NA	
Barite	Bolan Mining Enterprises, Government of Balochistan Province, 50%, and Pakistan Petroleum Ltd. (PPL), 50%	Khuzdar, Balochistan Province	437,000	
Do.	Razvi Mining (Pvt.) Ltd.	Gandori, Kalan, and Retri	30,000	
Bauxite	MTEQ Pakistan (Pvt.) Ltd. (mining and manufacturing)	Warehouses in Karachi	NA	
Cement	thousand metric tons	Power Cement Ltd. (Arif Habib Group)	Arif Habib Centre, Karachi	600
Do.	do.	Askari Cement Co. Ltd.	Nizampur and Wah	9
Do.	do.	Falcon Cement/Attock Cement Pakistan Ltd.	Hub Chowki, Karachi	1,700
Do.	do.	Bestway Cement Co. Ltd., 87.93%	Chakwal and 2 plants in Hattar; Lafarge plant in Chakwal District	8,000
Do.	do.	Cherat Cement Co. Ltd.	Nowshera	900
Do.	do.	Dandot Cement Co. Ltd.	Dandot	40
Do.	do.	Dewan Cement Ltd. (A Yousuf Dewan Co.)	Hattar and Dhabeji	800
Do.	do.	Fauji Cement Co. Ltd.	Jhang Bahtar, Attock District	3,000
Do.	do.	Fecto Cement Ltd.	Sangjani	900
Do.	do.	Gharibwal Cement Ltd.	Jhelum	2,500
Do.	do.	Javedan Cement Ltd.	Karachi	600
Do.	do.	D.G. Khan Cement Co. Ltd.	Dera Ghazi Khan and Khairpur Districts	4,000
Do.	do.	Kohat Cement Co. Ltd. (white and gray cement)	Kohat District	3,000
Do.	do.	Lucky Cement Ltd.	Indus Highway, Karachi	8,000
Do.	do.	do.	Pezu	4,000
Do.	do.	Maple Leaf Cement Factory Ltd.	Daudkhel	3,400
Do.	do.	Pioneer Cement Ltd.	Chenki	1,300
Do.	do.	Thatta Cement Co. Ltd. (Arif Habib Group)	Thatta	500
Do.	do.	Zeal Pak Cement Factory Ltd.	Hyderabad	1,100

See footnotes at end of table

TABLE 2—Continued
PAKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e
Cement—Continued		Flying Cement	Lilla, Mangowal, Khushab District, Punjab Province	1,260,000
Do.		A.C. Rohi Cement Ltd.	Den Nando Kohistan, Sindh Province	NA
Do.		Dadabhoj Cement Industries Ltd. (M.H. Dadabhoj Group)	Dadu, Karachi, Sindh Province	2,800,000
Chromite		Pakistan Chrome Mines Ltd.	Gwal, Khanozai, Muslim Bagh, and Nisai, Balochistan Province	20,000
Do.		Ghani Corp. (Ghani Mines (Pvt.) Ltd.)	NA	NA
Do.		Svah Resources Inc.	Muslim Bagh and Khanozai	180,000
Do.		MTEQ Pakistan (Pvt.) Ltd.	Dargai and Malakand	120,000
Coal	thousand metric tons	Sindh Coal Authority	Dadu, Sindh Province	4,000
Do.		do.	Tharparkar, Sindh Province	NA
Do.	thousand metric tons	Pakistan Mineral Development Corp., 50%; government of Sindh Province, 25%; Water and Power Development Authority, 25%	Lakhra Coal fields, Latifabad, Hyderabad	201,000
Do.		Lakhra Coal Development Co.	Khanot near Lakhra	NA
Do.	thousand metric tons	Degari-Sor-Range (Pakistan Mineral Development Corp.) (Government, 100%)	35 kilometers southeast of Quetta	3,000
Do.	do.	do.	16 kilometers east of Quetta	29,000,000
Do.	do.	Shahrig-Khost-Harnai Coal field (Pakistan Mineral Development Corp.) (Government, 100%)	160 kilometers northeast of Quetta	159,000
Do.		Progressive Mining Enterprise (Ghani Mines Ltd.)	Takwan, Chakwal District	NA
Do.		Ghani Corp. (Ghani Mines (Pvt.) Ltd.)	NA	NA
Do.		Al-Muhandus Corp. (Ghani Mines Ltd.)	Balman and Chukki, Quaidabad, Khushab District	NA
Do.		Nara Minerals	Patala Formation, Jhelum District	NA
Copper, mine output, Cu content		Metallurgical Corporation of China Ltd., 50%; Government of Pakistan, 48%; and government of Balochistan Province, 2%	Saindak Mine, Balochistan Province	NA
Fertilizer		Engro Fertilizer Ltd.	Daharki	2,000
Do.		Fatima Fertilizer Company Ltd.	Sadiqabadm Rahim Yar Khan	500,000
Do.		Pakarab Fertilizer Ltd.	Khanewal Road, Multan	NA
Do.		Fauji Fertilizer Bin Qasim Ltd.	Bin Qasim, Karachi	1,000
Gold, mine output, Au content		Metallurgical Corporation of China Ltd., 50%; Government of Pakistan, 48%; government of Balochistan Province, 2%	Saindak Mine, Balochistan Province	NA
Iron ore		Mines and Minerals Enterprises Pakistan	Punjab Province	NA
Lead and zinc, ore		Metallurgical Corporation of China Ltd., 75%; Pakistan Mineral Development Corp. and Government of Pakistan, 25%	Duddar Lead-Zinc Mine Project, ¹ Duddar, Balochistan Province	131,000
Marble (onyx)		Azeem Marble & Onyx Industries	Karachi	NA
Natural gas	million cubic meters	Pakistan Petroleum Ltd. (PPL) (Government, 68%; PPL Employees Empowerment Trust, 7%; private investors, 25%)	Adhi, Punjab Province; Kandhkot and Mazarani, Sindh Province; and Sui, Balochistan Province	8,400
Do.	do.	Oil and Gas Development Co. Ltd. (OGDC)	37 oilfields and gasfields, including Mari, Sindh Province	11,315
Do.	do.	Pakistan Oilfields Ltd.	15 oilfields and gasfields	730
Do.	do.	Mari Petroleum Co. Ltd.	Mari gasfield, Daharki and 14 oilfields and gasfields	850
Do.		Ocean Pakistan Ltd.	Punjab, Balochistan, Khyber Pakhtunkhwa, and Islamabad, Ratana Province	NA
Phosphate rock		Pakistan Mining Co. Ltd.	NA	90,000
Salt		Khewra Salt Mines (Pakistan Mineral Development Corp.) (Government, 100%)	Salt Range, south of Islamabad	435,000
Do.		Warcha Salt Mines (Pakistan Mineral Development Corp.) (Government, 100%)	276 kilometers from Islamabad	613,000
Do.		Kalabagh Salt Mines (Pakistan Mineral Development Corp.) (Government, 100%)	296 kilometers from Islamabad and 50 kilometers from Mainwali	80,000

See footnotes at end of table

TABLE 2—Continued
PAKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e
Salt—Continued		Jatta Salt Mines (Pakistan Mineral Development Corp.) (Government, 100%)	217 kilometers from Islamabad and Kohat	73,000
Do.		Bahadur Khel Salt Mines (Pakistan Mineral Development Corp.) (Government, 100%)	265 kilometers from Islamabad and 112 kilometers from Kohat	NA
Do.		Ghani Corp. [Ghani Mines (Pvt.) Ltd.]	Banda Daud Shah, Karak District	NA
Do.		Nara Minerals [Chani Mines (Pvt.) Ltd.]	Central part of Salt Range	NA
Do.		Ghani Mines	Korrian	NA
Do.		Al-Muhandus Corp. [Chani Mines (Pvt.) Ltd.]	Salt Range, near villages of Choa, Warcha, and Quaidabad, Khushab District	NA
Silica sand		Ghani Corp. [Ghani Mines (Pvt.) Ltd.]	NA	NA
Do.		MTEQ Pakistan (Pvt.) Ltd.	NA	120,000
Soda ash		ICI Pakistan Ltd.	Khewra, Punjab Province	350,000
Steel, crude	thousand metric tons	Pakistan Steel Mills Corp. (Pvt) Ltd. (PSM)	Bin Qasim	1,100
Steel, products	do.	do.	Karachi	1,000
Do.	do.	Mughal Iron and Steel Industries Ltd.	NA	37,000
Sulfur		Pakistan Oilfields Ltd.	15 oilfields and gasfields	NA
Talc		CapriCorn Minerals	Bandi Sadique	20,000
Petroleum:				
Crude	thousand 42-gallon barrels	Mari Petroleum Co. Ltd.	Sindh Province	6,000
Do.	do.	Pakistan Petroleum Ltd. (PPL) (Government, 68%; PPL Employees Empowerment Trust, 7%; private investors, 25%)	Adhi, Punjab Province (additional 10 blocks)	1,600
Do.	do.	Oil and Gas Development Co. Ltd., 25.03%, and Government, 74.97%	Balochistan, Punjab, and Sindh Provinces	11,500
Do.	do.	Pakistan Oilfields Ltd.	Balochistan Province	8,000
Do.		Ocean Pakistan Ltd.	Punjab, Balochistan, Khyber Pakhtunkhwa, and Islamabad, Ratana Province	NA
Refined	thousand 42-gallon barrels	Bosicor Pakistan Ltd.	Karachi	10,700
Do.	do.	Pak-Arab Refinery Co. Ltd. (joint venture of the Government of Pakistan and the government of the Emirate of Abu Dhabi)	Mahmood Kot, Punjab Province	360,000
Do.	do.	Attock Refinery Ltd.	Rawalpindi	16,000
Do.	do.	Pakistan Refinery Ltd.	Karachi	17,000
Do.	do.	Pakistan Mining Co. Ltd.	NA	90,000
Do.		National Refinery Ltd.	NA	NA

^eEstimated. Do., do. Ditto. NA Not available.

¹The Duddar lead-zinc mine project was suspended in 2012 and the underground system continued to be on care-and-maintenance status in 2015.