



2016 Minerals Yearbook

PAKISTAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF PAKISTAN

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Pakistan is rich in such mineral resources as clays (including china clay and fire clay), 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. In terms of world production in 2016, Pakistan ranked 7th and 11th in graphite and nitrogen (ammonia) production, respectively, and accounted for 2% of world production of ammonia and 1% of world production of graphite (table 1; Apodaca, 2018; Olson, 2018).

Minerals in the National Economy

Pakistan's real gross domestic product (GDP) increased by 4.7% in 2016 compared with an increase of 4.0% (revised) in 2015 owing to economic reforms and growth in the industrial and services sectors. The nominal GDP was \$283.7 billion. Pakistan's industrial sector expanded by 6.8% in 2016 compared with a 4.8% (revised) rate of growth in 2015 and accounted for 21% of the GDP in 2016. The rate of growth of the mining and quarrying sector was 6.8% in 2016 compared with 4.0% (revised) in 2015, and the sector accounted for 14.2% of the value of the industrial sector and 3.0% of the GDP. The rate of growth of the manufacturing sector was 5.0% in 2016 compared with 4.0% (revised) in 2015, and the sector contributed 64.7% to the value of the industrial sector and 13.6% of the GDP. Foreign direct investment (FDI) increased by 54% to \$2.0 billion in 2016 from \$1.3 billion (revised) in 2015. The FDI increased owing to a number of projects implemented by the China-Pakistan Economic Corridor (CPEC) and the One Belt One Road programs. The FDI flow was mostly into the development of infrastructure, electricity generation, petroleum and natural gas exploration, petroleum refining, and transportation (Asian Development Bank, 2017, p. 211; International Monetary Fund, 2017, p. 203; Ministry of Finance, 2017a, p. 6, 9, 10, 19; 2017b, p. iv, vii; 2017c; United Nations Conference on Trade and Development, 2017, p. 19, 52, 224; World Bank, The, 2017).

Production

Production of bauxite increased by 190%; dolomite, by 155%; fuller's earth, by 120%; feldspar, by 116%; natural mineral pigments (ocher), by 75%; dimension stone (marble), by 60%; gemstones (emerald), by 51%; native sulfur, by 36%; crude (raw) steel, by 23%; barite, by 21%; gypsum (crude) and kaolin, by 20% each; rock salt, by 16%; fire clay, by 15%; liquefied petroleum gas, by 14%; cement, by 11%; chalk, by 10%; copper, (mine production, Cu content), limestone, and iron ore (Fe content), by 8% each; iron ore (gross weight), by 7%; and soda ash, by 6%. Production of antimony (mine output, Sb content) decreased by 73%; other petroleum products, by 47%; phosphate rock (gross weight), by 41%; phosphate rock (P_2O_5 content), by 39%; naphtha, by 22%; kerosene and salt (marine), by 21% each; chromite (mine output, gross weight), by 19%;

chromite (Cr_2O_3 content), by 18%; coal, bituminous and lignite, by 17% each; fluorspar, by 14%; and bentonite and magnesite (crude), by 7% each. Data on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Copper and Gold.—In 2016, the Saindak copper and gold mine, which is located in the Chagai Hills in Balochistan Province, produced 14,136 metric tons (t) of copper compared with 13,056 t in 2015. The 5-year agreement on mining licenses between the Metallurgical Corp. of China Ltd. (MCC) and the government of the Balochistan Province for the Saindak copper and gold mine was extended until October 2017. The government of Balochistan Province decided that it would take over the Saindak copper and gold mine once the agreement expires (Metallurgical Corp. of China Ltd., 2016, p. 30).

In 2016, Lake Resources N.L. of Australia continued exploration activities in the Chagai Hills project in Balochistan Province, which contains three exploration areas—the Amalaf, the Dasht-i-Gauran, and the Koh-i-Sultan. Lake Resources owned the project through its wholly owned subsidiary Lake Mining Pakistan (Pvt.) Ltd. Balochistan Chaghi Mining Resources (Pvt.) Ltd. (BCMR) was expected to hold a 60% interest in the Chagai Hills project; Lake Resources, 27.5%; and Aamir Resources Consultants (Pvt.) Ltd. (ARC), 12.5% (Lake Resources N.L., 2016, p. 2–3).

Industrial Minerals

Sodium Compounds.—In 2016, production of soda ash increased to 476,000 t from 449,000 t in 2015. In 2015, ICI Pakistan Ltd. was the leading producer of soda ash in Pakistan, and it produced 308,499 t of soda ash. ICI Pakistan planned to invest \$90 million at its facility in Khewra in Punjab Province to expand the production capacity to 425,000 metric tons per year (t/yr) from 350,000 t/yr. The loans for the expansion were obtained in 2016. The expansion plan would be implemented in two phases. The first phase was expected to be completed by yearend 2017 (McCormick, 2015; News International, The, 2015; ICI Pakistan Ltd., 2016, p. 37; 2017, p. 37).

Outlook

The Government is actively trying to increase the energy supply and to improve the road network through the CPEC project. The project was expected to lead to an increase in the production of industrial minerals and cement. The industrial

sector is likely to expand as well owing to the increase in construction and the moderate expansion in mining and manufacturing. Pakistan's soda ash production might increase owing to domestic and foreign investments and company expansions (Markey and West, 2016).

References Cited

- Apodaca, L.E., 2018, Nitrogen (fixed)—Ammonia: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 116–117.
- Asian Development Bank, 2017, Pakistan, *in* Asian development outlook 2017—Transcending the middle-income challenge: Mandaluyong City, Philippines, Asian Development Bank, 317 p.
- ICI Pakistan Ltd., 2016, ICI Pakistan Limited financial statement: Karachi, Pakistan, ICI Pakistan Ltd., August 30.
- ICI Pakistan Ltd., 2017, Annual report 2016–17—Driver to innovate: Karachi, Pakistan, ICI Pakistan Ltd., June 30.
- International Monetary Fund, 2017, Gaining momentum: Washington, DC, International Monetary Fund, April, 238 p.
- Lake Resources N.L., 2016, Annual report 2016: Brisbane, Queensland, Australia, Lake Resources N.L., 4 p.
- Markey, D.S., and West, James, 2016, Behind China's gambit in Pakistan: Council on Foreign Relations, May 12. (Accessed September 6, 2016, at <https://www.cfr.org/expert-brief/behind-chinas-gambit-pakistan>.)
- McCormick, Myles, 2015, ICI Pakistan announce 150,000 tonne increase in soda ash capacity: Industrial Minerals, September 1. (Accessed September 6, 2016, at <http://www.indmin.com/Article/3484671/ICI-Pakistan-announce-150000-tonne-increase-in-soda-ash-capacity.html>.)
- Metallurgical Corp. of China Ltd., 2016, 2016 annual report: Beijing, China, Metallurgical Corp. of China Ltd., 318 p.
- Ministry of Finance [Pakistan], 2017a, Growth and investment, *in* Pakistan economic survey 2015–2016: Islamabad, Pakistan, Ministry of Finance, p. 1–22.
- Ministry of Finance [Pakistan], 2017b, Manufacturing and mining, *in* Pakistan economic survey 2015–2016: Islamabad, Pakistan, Ministry of Finance, p. 47–53.
- Ministry of Finance [Pakistan], 2017c, Overview of the economy, *in* Pakistan economic survey 2015–2016: Islamabad, Pakistan, Ministry of Finance, p. i–xv.
- News International, The, 2015, ICI Pakistan to spend \$90mln on light soda ash plant in Khewra: The News International, August 28. (Accessed November 1, 2016, at <https://www.thenews.com.pk/print/58967-ici-pakistan-to-spend-90mln-on-light-soda-ash-plant-in-khewra>.)
- Olson, D.W., 2018, Graphite (natural): U.S. Geological Survey Mineral Commodity Summaries 2018, p. 72–73.
- United Nations Conference on Trade and Development, 2017 World investment report—investment and the digital economy: Geneva, Switzerland, United Nations Conference on Trade and Development, 237 p.
- World Bank, The, 2017, GDP (current US\$): The World Bank. (Accessed September 14, 2017, at <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>.)

TABLE 1
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
METALS					
Antimony	12	89	127	55 ^r	15
Bauxite, gross weight	30,233 ^r	27,243 ^r	30,175 ^r	31,092	90,193
Chromite, mine output:					
Gross weight	195,000 ^r	77,068 ^r	71,861 ^r	100,155	81,250
Cr ₂ O ₃ content	88,000 ^r	35,000	32,000	45,000 ^r	37,000
Copper, mine output, Cu content	19,211	13,500	13,122	13,056	14,136
Iron and steel:					
Iron ore, gross weight	384	252	255	439 ^r	471
Fe content, 32% ^c	123	81	82	140 ^r	151
Pig iron	196 ^r	165	142	163	--
Raw steel	1,631	1,845	2,423	2,892 ^r	3,553
Lead, refined, secondary	3,000	1,000 ^r	--	--	--
Zinc, mine output, Zn content	14,000 ^r	2,000 ^r	--	--	--
INDUSTRIAL MINERALS					
Barite	109,415 ^r	87,165 ^r	153,808	121,575	147,031
Cement, hydraulic	30,183	31,460	31,960	33,300 ^r	37,020
Clay:					
Bentonite	16,520	21,578 ^r	44,115 ^r	33,612 ^r	31,384
Fire clay	408,000	405,372 ^r	428,354 ^r	473,906	546,134
Fuller's earth	6,906	4,045 ^r	9,914	10,396	22,880
Kaolin	22,000	16,463 ^r	13,803 ^r	23,064 ^r	27,576

See footnotes at end of table.

TABLE 1—Continued
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016	
INDUSTRIAL MINERALS—Continued						
Feldspar	53,235	77,134 ^r	38,126 ^r	141,582 ^r	305,308	
Fluorspar	7,840 ^r	11,292	8,961	7,692	6,625	
Gemstones, emerald, precious stone	grams	NA ^e	500 ^e	800 ^e	1,700 ^e	2,562
Graphite	900	6,200	13,800	14,000	14,000	
Gypsum, crude	1,173,000	1,229,000 ^r	1,446,000 ^r	1,660,000	1,998,000	
Pigments, mineral, natural, ocher	42,107	31,873 ^r	27,507	51,534	90,424	
Magnesite, crude	5,444	4,381 ^r	4,457	24,271 ^r	22,581	
Nitrogen, N content of ammonia	2,400,000 ^r	1,900,000 ^r	2,200,000 ^r	2,300,000 ^r	2,600,000	
Phosphate rock:						
Gross weight	69,400	104,961	89,000	93,400	55,400 ^c	
P ₂ O ₅ content ^e	17,000 ^r	26,000 ^r	22,000 ^r	23,000 ^r	14,000	
Salt:						
Marine	thousand metric tons	292	297	300	290 ^r	230
Rock	do.	2,029	2,269	2,241	2,800 ^r	3,252
Total	do.	2,321	2,566	2,541	3,090 ^r	3,482
Sodium compounds:						
Caustic soda	do.	192	172	166	227 ^r	218
Soda ash, manufactured	do.	367	379	284	449	476
Stone, sand, and gravel:						
Sand and gravel, construction, unspecified	NA	381,863	387,971	NA	NA	
Sand and gravel, industrial, sand	NA	3,700	2,490	NA	45,539	
Silica, mine production, unspecified	371,000	308,000	222,000	359,000	378,000	
Stone, crushed:						
Chalk	1,500	1,021	689	100	110	
Dolomite	thousand metric tons	198	347	676	271	691
Limestone	do.	37,679 ^r	36,473 ^r	38,641	44,252	47,577
Stone, dimension, marble	do.	1,751	3,790 ^r	2,185 ^r	3,219	5,149
Sulfur, native, S content	26,000	26,904	31,559	14,888	20,243	
Talc and related materials, soapstone	110,000	77,165 ^r	80,289	113,509	116,678	
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	thousand metric tons	1,780 ^r	1,810 ^r	1,860 ^r	2,890 ^r	2,400
Lignite	do.	1,170 ^r	1,190 ^r	1,220 ^r	1,900 ^r	1,580
Gas, natural, marketable	million cubic meters	43,806	42,617	41,937	41,900	41,500
Petroleum:						
Crude	thousand 42-gallon barrels	24,100 ^r	29,600 ^r	34,200 ^r	33,000 ^r	31,300
Refinery output:						
Distillate fuel oil	do.	39,405 ^r	37,760 ^r	48,776 ^r	55,333 ^r	52,607
Gasoline	do.	10,639 ^r	10,249 ^r	12,569 ^r	14,283 ^r	14,308
Jet fuel	do.	6,115 ^r	4,481 ^r	6,526 ^r	6,680 ^r	6,964
Kerosene	do.	945 ^r	851 ^r	1,224 ^r	1,290 ^r	1,021
Liquefied petroleum gas	do.	2,154 ^r	1,806 ^r	2,332 ^r	2,576 ^r	2,926
Lubricants	do.	1,433 ^r	1,115 ^r	1,348	1,378 ^r	1,445
Naphtha	do.	6,126	4,350	6,892	8,713	6,837
Other	do.	279 ^r	263 ^r	414 ^r	313 ^r	166
Total	do.	67,096 ^r	60,875 ^r	80,081 ^r	90,566 ^r	86,274
Uranium, mine production, U content, processed		38	35	38	38	--

^cEstimated. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through November 28, 2017. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, a number of other mineral commodities were thought to have been produced, including abrasives, secondary aluminum, emery, gold, silver, and natural gas liquids, but available information was inadequate to make reliable estimates of output.

TABLE 2
PAKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Aluminum, secondary	Canon Metal Works	Smelter at 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.	Smelter at Karachi	NA
Do.	Standard Aluminium	do.	NA
Do.	Aluminum Co. of Pakistan Industries (Pvt) Ltd.	do.	2
Do.	Japan Metal Industries	do.	2
Do.	Khan Aluminum Industries	do.	3
Do.	Krudson Pvt Ltd.	do.	1
Do.	Lucky Industries	do.	1
Do.	Pakistan Cabled Ltd.	do.	3
Do.	Pakistan Metal Industries	do.	4
Do.	Chawala Chemical & Metal Industries	Smelter at Lahore	NA
Do.	Aluminum Co. of Pakistan Industries (Pvt) Ltd.	do.	1
Do.	Alpha Aluminium Co.	do.	1
Do.	metric tons Chauhan Industries	do.	120
Do.	do. China Industries	do.	150
Do.	do. Craft Aluminium	do.	300
Do.	do. Khuram Industry	do.	300
Do.	Pakistan Alco Products	do.	NA
Do.	Shaheen Industries	do.	NA
Do.	Sana Aluminium Industries	Smelter at Peshawar	NA
Do.	Hyder Industries	Smelter at Sahiwal	NA
Do.	Jilani Industries	do.	NA
Antimony	MTEQ Pakistan (Pvt.) Ltd. (mining and manufacturing)	Vashouk and Dalbadin, Balochistan Province	12
Barite	Bolan Mining Enterprises (Government of Balochistan Province), 50%, and Pakistan Petroleum Ltd., 50%	Khuzdar, Balochistan Province	120
Do.	Razvi Mining (Pvt.) Ltd.	Gandori, Kalan, and Retri	30
Bauxite	MTEQ Pakistan (Pvt.) Ltd. (mining and manufacturing)	Warehouses in Karachi	NA
Cement	Power Cement Ltd. (Arif Habib Group)	Arif Habib Centre, Karachi	600
Do.	Askari Cement Co. Ltd.	Nizampur and Wah	9
Do.	Falcon Cement/Attock Cement Pakistan Ltd.	Hub Chowki, Karachi	1,710
Do.	Bestway Cement Co. Ltd. (87.93%)	Chakwal and 2 plants in Hattar; Lafarge plant in Chakwal District	8,000
Do.	Cherat Cement Co. Ltd.	Nowshera	900
Do.	Dandot Cement Co. Ltd.	Dandot	40
Do.	Dewan Cement Ltd. (A Yousuf Dewan Co.)	Hattar and Dhabeji	800
Do.	Fauji Cement Co. Ltd.	Jhang Bahtar, Attock District	3,000
Do.	Fecto Cement Ltd.	Sangjani	900
Do.	Gharibwal Cement Ltd.	Jhelum	2,500
Do.	Javedan Cement Ltd.	Karachi	600
Do.	D.G. Khan Cement Co. Ltd.	Dera Ghazi Khan and Khairpur Districts	4,000
Do.	Kohat Cement Co. Ltd. (white and gray cement)	Kohat District	3,000
Do.	Lucky Cement Ltd.	Indus Highway, Karachi	8,000
Do.	do.	Pezu	4,000
Do.	Maple Leaf Cement Factory Ltd.	Daudkhel	3,000
Do.	Pioneer Cement Ltd.	Chenki	1,300
Do.	Thatta Cement Co. Ltd. (Arif Habib Group)	Thatta	500
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 2016

(Thousand 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	1,300	
Do.	A.C. Rohi Cement Ltd.	Den Nando Kohistan, Sindh Province	NA	
Do.	Dadabhoi Cement Industries Ltd. (M.H. Dadabhoi Group)	Dadu, Karachi, Sindh Province	2,800	
Chromite	Pakistan Chrome Mines Ltd.	Gwal, Khanozai, Muslim Bagh, and Nisai, Balochistan Province	20	
Do.	Ghani Corp. (Ghani Mines (Pvt.) Ltd.)	NA	NA	
Do.	Svah Resources Inc.	Muslim Bagh and Khanozai	180	
Do.	MTEQ Pakistan (Pvt.) Ltd.	Dargai and Malakand	120	
Coal	Sindh Coal Authority	Dadu, Sindh Province	4,000	
Do.	do.	Tharparkar, Sindh Province	NA	
Do.	Lakhra Coal fields, Pakistan Mineral Development Corp., 50%; government of Sindh Province, 25%; and Water and Power Development Authority, 25%	Latifabad, Hyderabad	201	
Do.	Lakhra Coal Development Co.	Khanot near Lakhra	NA	
Do.	Degari-Sor-Range (Pakistan Mineral Development Corp.) (Government, 100%)	35 kilometers southeast of Quetta	3,000	
Do.	do.	16 kilometers east of Quetta	29,000	
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 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 Corp. of China Ltd. (MCC), 50%; Government of Pakistan, 48%; government of Balochistan Province, 2%	Saindak Mine, Balochistan	14	
Fertilizer	Engro Fertilizer Ltd.	Daharki	2	
Do.	Fatima Fertilizer Company Ltd.	Sadiqabadm Rahim Yar Khan	500	
Do.	Pakarab Fertilizer Ltd.	Khanewal Road, Multan	NA	
Do.	Fauji Fertilizer Bin Qasim Ltd.	Bin Qasim, Karachi	1	
Gas, natural	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	
Gold, mine output, Au content	Metallurgical Corp. of China Ltd. (MCC), 50%; Government of Pakistan, 48%; government of Balochistan Province, 2%	Saindak Mine, Balochistan	NA	
Iron ore	Mines and Minerals Enterprises Pakistan	Punjab Province	NA	
Lead and zinc, ore	Metallurgical Corp. of China Ltd., 75%, and Pakistan Mineral Development Corp. (Government, 100%), 25%	Duddar Lead-Zinc Mine project, ¹ Duddar, Balochistan Province	131	
Marble (onyx)	Azeem Marble & Onyx Industries	Karachi	NA	
Phosphate rock	Pakistan Mining Co. Ltd.	NA	90	

See footnotes at end of table.

TABLE 2—Continued
PAKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Salt		Khewra Salt Mines [Pakistan Mineral Development Corp. (Government, 100%)]	Salt Range, south of Islamabad	435
Do.		Warcha Salt Mines [Pakistan Mineral Development Corp. (Government, 100%)]	276 kilometers from Islamabad	613
Do.		Kalabagh Salt Mines [Pakistan Mineral Development Corp. (Government, 100%)]	296 kilometers from Islamabad and 50 kilometers from Mainwali	80
Do.		Jatta Salt Mines [Pakistan Mineral Development Corp. (Government, 100%)]	217 kilometers from Islamabad and Kohat	73
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 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 village Choa, Warcha, Quaidabad, Khushab District	NA
Silica sand		Ghani Corp. (Ghani Mines (Pvt.) Ltd.)	NA	NA
Do.		MTEQ Pakistan (Pvt.) Ltd.	NA	120
Soda ash		ICI Pakistan Ltd.	Khewra, Punjab Province	350
Steel, raw		Pakistan Steel Mills Corp. (Pvt) Ltd. (PSM)	Bin Qasim	4,000
Sulfur		Pakistan Oilfields Ltd.	15 oilfields and gasfields	NA
Talc		CapriCorn Minerals	Bandi Sadique	20
Petroleum:				
Crude	thousand 42-gallon barrels	Mari Petroleum Co. Ltd.	Sindh Province	6,000
Do.	do.	Pakistan Petroleum Ltd. (Government, 68%; PPL Employees Empowerment Trust, 7%; private investors, 25%)	Adhi, Punjab Province (additional 10 blocks)	1,600
Do.	do.	Government, 74.97%, and Oil and Gas Development Co. Ltd., 25.03%	Balochistan, Punjab, and Sindh Provinces	11,500
Do.	do.	Pakistan Oilfields Ltd.	Balochistan Province	8,000
Do.		Ocean Pakistan Ltd.	Punjab, Balochistan, Khyber Pakhtunkhawa, and Islamabad, Ratana Province	NA
Refined	thousand 42-gallon barrels	Bosicor Pakistan Ltd.	Karachi	10,700
Do.	do.	Pak-Arab Refinery Co. Ltd. (Government of Pakistan and government of the Emirate of Abu Dhabi)	Mahmood Kot, Punjab Province	360
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

^cEstimated. 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.