

THE MINERAL INDUSTRY OF

POLAND

By Walter G. Steblez

Poland was endowed with significant mineral resources, which included bituminous coal, copper and lead and zinc ores, salt, silver, and sulfur. Of these, copper and sulfur represented about 5% and 9% of world reserve bases for these commodities (Edelstein, 2001; Ober, 2001). Resources of coal, salt, and silver also were considered to be of world significance. An inventory of the country's mineral resources for 1999 indicated net resource gains mainly for such industrial minerals as ceramic clays, glass sand, gravel aggregates, limestone, and marl, as well as natural gas (table 2).

As the second largest producer of copper in Europe and Central Eurasia in 1999, Poland remained among the top 10 world producers of copper in terms of mine output (Edelstein, 2001). Poland also continued to be among the world's major producers of silver and sulfur. In Europe and Central Eurasia, Poland was a significant producer of lead and zinc and a leading producer of lime, nitrogen (in ammonia), and salt. Also, according to the most recent available data (1997), Poland accounted for about 3.6% of total world output of bituminous coal (Główny Urząd Statystyczny, 2000, p. 668).

Poland's economy remained robust in 1999. The gross domestic product (GDP) rose by about 4.1% compared with that of 1998; however, the country's 1999 GDP growth rate was somewhat smaller than that achieved in 1998, which amounted to 4.8%. The gross output of industry represented about 24% of the GDP, and that of the mining and quarrying sector accounted for about 2.3%. The gross value of output of the mining and quarrying sector in 1999, however, declined by almost 4% compared with that of 1998. Total sales for the year by the mining and quarrying sector contracted by 5.5%, compared with those of 1998. The base-metals-producing sector registered an 8.2% decline in sales compared with those of 1998; in contrast, sales by the industrial minerals sector rose by 12.3%. Sales by the coke manufacturing and petroleum refining sectors remained at about their respective levels in 1998 (Główny Urząd Statystyczny, 2000, p. 370, 531-532).

Poland's production of minerals in 1999 showed mixed results. Production increases were reported for copper ore, refined copper, gold, and lead and zinc ore. The output of such other metals as aluminum, ferroalloys, pig iron, silver, crude steel, steel semimanufactures, and zinc metal registered declines. Among industrial minerals, only the production of bentonite, glass sand, glass, gypsum, hydraulic cement, kaolin, and rock salt registered increases; most other industrial minerals

were produced below their corresponding 1998 output levels. The production of natural gas, peat, and crude petroleum and refinery products registered increases compared with 1998 output levels (table 1).

Poland's trade returns for 1999 for selected mineral commodities showed a decline in the import of iron ore and concentrate. Imports of aluminum and steel, however, rose compared with those of 1998. Among industrial minerals and mineral fuels, imports of glass, mineral fertilizers, and petroleum recorded increases (table 3). With the exception of steel and steel semimanufactures, exports of major metals rose in 1999. Exports of refined petroleum products for the year showed increases in contrast to coal and coke and semicoke, which showed declines. Cement exports fell significantly in 1999 compared with those of the preceding year (table 4).

Poland's mining and mineral-processing industry was extensive and appeared well positioned to respond to the country's rising needs for all forms of mineral raw materials, especially those consumed by the construction sector of the economy (table 5).

Efforts to restructure and privatize Poland's steel industry and steel trade issues continued to be among the leading mineral industry concerns during the year (Walawalker, 1999).

With respect to trade issues, the Ministry of the Economy announced plans to conduct an investigation into possible steel dumping practices in Poland by a number of member states of the Commonwealth of Independent States (former Soviet Union). The main steel commodities at issue were hot-rolled coils and heavy plates. Exports to Poland by these countries allegedly were sufficiently large and prices were sufficiently low (reportedly up to 30% lower than comparable domestic prices) to warrant an investigation (Metal Bulletin, 1999).

References Cited

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- Ober, J.A., 2001, Sulfur: U.S. Geological Survey, Mineral Commodity Summaries 2001, p. 160-161.
- Walawalker, Raoul, 1999, Poland works on its weight: Metal Bulletin Monthly, no. 342, June, p. 10-37.

TABLE 1
POLAND: PRODUCTION OF MINERAL COMMODITIES 1/

(Thousand metric tons unless otherwise specified)

Commodity 2/ METALS		1995	1996	1997	1998	1999
Aluminum, metal, primary	tons	55,728	51,900	53,614	54,168 r/	50,974
Cadmium:						
Metal, primary	do.	--	--	22	25 r/	25 e/
Oxide	do.	100	31	62	61	60 e/
Copper:						
Ore:						
Gross weight		26,463	27,427	21,165	27,594	28,395
Cu content	tons	431,100	472,600	464,600	490,900	523,120
Concentrate:						
Gross weight		1,507	1,650	1,600	1,750	1,900 e/
Cu content	tons	384,200	421,900	414,800	436,200	464,000
Metal:						
Smelter:						
Primary	do.	395,200 r/	399,800 r/	415,500	422,243	457,225
Secondary e/	do.	15,000	4,800	15,000	10,000	9,000
Total e/	do.	410,000	405,000 r/	431,000	432,000	466,000
Refined, electrolytically, primary and secondary	do.	406,700	424,700	440,600	446,837	470,494
Gold, metal, smelter	kilograms	510	598	435	409 r/	485
Iron and steel:						
Pig iron:						
For foundry use		227	219	263	288	60 e/
For steel production		7,146	6,321	7,032	5,841	5,233
Total		7,373	6,540	7,295	6,129	5,290 e/
Ferroalloys:						
Ferromanganese, from blast furnace	tons	46,300	59,900	47,500	50,152	57
From electric furnace:						
Ferrochromium	do.	18,334 r/	3,785 r/	6,200	4,200 r/	2,000 e/
Ferrosilicomanganese	do.	20,500	25,000	20,000	15,100 r/	10,000 e/
Ferrosilicon	do.	70,400	71,800	77,300	75,000	50,000 e/
Other electric furnace ferroalloys	do.	3,000	5,800	8,500	13,300 r/	13,200 e/
Total	do.	112,234 r/	106,385 r/	112,000	107,600 r/	75,200 e/
Steel, crude:						
From open hearth furnaces		1,526	1,118	1,057	494	378
From oxygen converters		7,685	6,757	7,531	6,223	5,452
From electric furnaces		2,677	2,554	2,994	3,197	3,022
Other		2	3	2	1	1
Total		11,890	10,432	11,584	9,915	8,853
Semimanufactures:						
Hot rolled		8,998	8,532	9,296	7,987	6,991
Cold rolled		1,943	1,788	1,982	1,764	2,194
Pipe		576	532	538	500	484
Lead:						
Pb-Zn ore, gross weight		5,040	5,034	4,938	5,052	5,068
Mine output:						
Pb content of Pb-Zn ore	tons	69,000	74,900	68,800	73,814 r/	81,849
Pb content of Cu ore	do.	25,000	38,600	42,600 r/	42,600 r/	40,000 e/
Total	do.	94,000	113,500	111,400 r/	116,414 r/	121,849
Concentrate, gross weight	do.	88,300	88,700	84,600	90,400 r/	104,000 e/
Pb content	do.	59,200	59,800	55,600	59,533 r/	68,358
Metal:						
Smelter:						
Primary	do.	34,800	26,400	29,600	28,700 r/	30,000 e/
Secondary	do.	38,600	43,000	43,700	50,500 r/	50,000 e/
Total	do.	73,400	69,400	73,300	79,200 r/	80,000
Refined	do.	66,421	66,000	64,800	64,300	63,895
Platinum-group metals, average content of slimes: e/ 3/						
Palladium	kilograms	12	18	12	12	12
Platinum	do.	21	30	20	20	21
Selenium	tons	73	73	76	67 r/	70
Silver, mine output, Ag content, recoverable	do.	1,001	935	1,038	1,108	1,100
Zinc:						
Metal, smelter, primary and secondary	do.	166,421	165,000	172,919	178,016	177,804

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity 2/	1995	1996	1997	1998	1999	
METALS--Continued						
Zinc--Continued:						
Zn content:						
Mine output	tons	183,200	186,500	182,900	182,349 r/	185,689
Concentrate output	do.	154,500	159,000	158,300	157,874 r/	160,082
INDUSTRIAL MINERALS						
Barite:						
Crude	do.	22,400	21,700	3,400	--	--
Beneficiated	do.	6,100	6,200	600	--	--
Cement:						
Klinker for cement		12,602	11,756	12,739	11,974	11,700
Hydraulic cement		13,914	13,959 r/	15,003	14,970	15,345
of which Portland cement		12,589	12,668	13,824	13,934	14,300
Clays:						
Bentonite	tons	1,500	1,800	--	24,000	96,000
Fuller's earth	do.	4,800	6,200	6,100	5,400 r/	5,500 e/
Fire clay		275	248	199	175	140
Kaolin:						
Crude		269	281	262	270	300
Beneficiated		53	72	84	82	89
Diamond, synthetic	thousand carats	256	206	35	7 r/	10 e/
Diatomite	tons	2,200	1,700	1,200	1,531 r/	1,000
Feldspar:						
Run of mine	do.	46,000	64,000	74,000	26,500 r/	30,000 e/
Beneficiated	do.	44,100	58,300	75,700	72,900 r/	70,000
Gypsum and anhydrite, crude 4/		1,023	1,028 r/	1,035	1,029	1,163
Lime, hydrated and quicklime		2,526	2,461 r/	2,516	2,406	2,299
Magnesite:						
Ore, crude		26,000	21,000	30,000	38,300 r/	25,000 e/
Concentrate		21,500	19,300	6,403	5,745	--
Calcined	tons	1,200	800	400	-- r/	-- e/
Nitrogen, N content of ammonia		1,726 r/	1,713 r/	1,740 r/	1,299	1,151
Salt:						
Rock		812	923	791	748	923
Other		3,402	3,240	3,188	2,536 r/	2,488
Total		4,214	4,163	3,979	3,284 r/	3,411
Sand, excluding glass sand:						
Foundry sand		521	1,067	1,035	979	905
Filling sand		19,067	17,510	14,155	13,695	11,352
Lime-sand brick production sand	thousand cubic meters	1,435	1,086	799	728 r/	750 e/
Silica:						
Quartz and quartz crystal	tons	14,200	55,200	77,600	26,883	9,326
Quartz, refractory	do.	233,000	294,000	205,000	204,000	172,000
Quartz schist	do.	8,500	6,500	6,518	3,100	--
Glass sand		874	1,111	1,124	1,375	1,418
Glass:						
Construction, flat		327	322	426	523	500 e/
Technical		48	52	52	65	64
Commercial		64	67	70	74	79
Packing		777	811	873	918	928
Sodium compounds, n.e.s.:						
Carbonate (soda ash), 98%		1,001	893	933	983	910
Caustic soda (96% NaOH)		653	705	718	807	737
Stone:						
Dolomite, mine output		5,153 r/	5,345 r/	5,781 r/	5,679 r/	1,861
Limestone, for lime production		12,079	12,764	13,136	11,950 r/	12,000 e/
Limestone for non-lime end use		27,036	26,748	28,201	28,364 r/	28,000 e/
Crushed and dimension stone, mine output		17,513 r/	18,180 r/	20,618 r/	23,113 r/	20,000 e/
Sulfur:						
Byproduct:						
From metallurgy		210	200 e/	256	260	260
From petroleum		33	30 e/	44	57	74
Total		243	230 e/	300	317	334

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity 2/	1995	1996	1997	1998	1999	
INDUSTRIAL MINERALS--Continued						
Sulfur--Continued:						
Native, frasch	2,392	1,745	1,673	1,348 r/	1,175	
From gypsum e/	12	12	12	10	--	
Total	2,647	1,987	1,985	1,675 r/	1,509	
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	137,166	137,987	137,793	115,726	111,894	
Lignite	63,547	63,845	63,169	62,820	60,839	
Total	200,713	201,832	200,962	178,546	172,733	
Coke, coke oven	11,579	10,340	10,536	9,944 r/	8,575	
Fuel briquets, all grades	110	96	80	64	50	
Gas:						
Natural	million cubic meters	4,803	4,754	4,836	4,852	4,757
Manufactured:						
Town gas	do.	33	16	10	2	--
Coke oven gas	do.	4,872	4,247	4,414	4,145	3,876
Generator gas e/	do.	400	400	400	400	400
Total	do.	5,305	4,663	4,824	4,547	4,276
Natural gas liquids e/	thousand 42-gallon barrels	30	30	30	35	40
Peat, fuel and agricultural		199	198	206	243	310
Petroleum:						
Crude, reported		292	317	289	357	425
Refinery products 5/		28,435	30,000 e/	14,885	16,191	16,784

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

1/ Table includes data available through February 2001.

2/ In addition to commodities listed, antimony and germanium, associated with polymetallic deposits, and cobalt and nickel, associated with copper ores, are produced in quantities that so far have not warranted further recovery.

3/ Estimates based on reported platinum- and palladium-bearing final (residual) slimes and their average Pt and Pd content from electrolytic copper refining.

4/ Includes building gypsum, as well as an estimate for gypsum used in the production of cement.

5/ Includes virtually all major products.

TABLE 2
POLAND: RESOURCES OF MAJOR MINERALS IN 1999

Commodity	Number of deposits		Geologically documented resources 1/		
	Total	Exploited	Total	Exploited	+/- 1998
Metal ores:					
Copper	14	5	2,542	1,624	-45.6
Lead and zinc	20	2	190	49	-4.1
Industrial minerals					
Raw materials for chemicals:					
Sulfur, native	17	5	505	161	-3.2
Rock salt	20	4	80,389	8,464	-16.5
Raw materials for construction:					
Clays:					
Argillaceous material for construction ceramics	1,199	424	3,993	681	-4.1
Ceramic clays	27	6	142	12	+1.9
Refractory clays	18	5	57	8	-0.4
Dolomites	10	4	341	172	-3.1
Sand and gravel:					
Glass sand	30	5	607	66	+2.3
Filling sand	34	10	5,183	1,224	-567.8
Moulding sand	78	12	356	122	-0.4
Quartz sand for brick and concrete	155	53	718	155	-1.7
Gravel aggregates	3,915	1,360	14,464	3,005	+125.3
Stone:					
Stone for construction and road use	507	203	8,014	3,872	-24.8
Limestone and marl for lime and cement use	182	36	17,680	5,770	+359.4

See footnotes at end of table.

TABLE 2--Continued
POLAND: RESOURCES OF MAJOR MINERALS IN 1999

Commodity	Number of deposits		Geologically documented resources 1/		
	Total	Exploited	Total	Exploited	+/- 1998
Mineral fuels					
Coal:					
Bituminous	129	51	46,846	18152	-4,061
Lignite	78	11	14,051	2,145	-14.1
Gas: 2/					
Natural	242	178	149	119	+6.9
Coal methane	42	18	89	18	-2.9
Petroleum	95	83	14	14	-0.2

1/ Million metric tons unless otherwise specified.

2/ Billion cubic meters.

Sources: Central Statistical Office of Poland, 2000, Statistical Yearbook of the Republic of Poland; Polish Academy of Sciences, 2000, Minerals Yearbook of Poland.

TABLE 3
POLAND: IMPORTS OF SELECTED MINERAL COMMODITIES

(Thousand metric tons unless otherwise specified)

Commodity	1998	1999
Metals		
Aluminum and articles thereof	241	279
Iron ore and concentrate	9,982	7,418
Steel and steel semimanufactures	1,839	2,150
Industrial Minerals		
Glass	362	370
Mineral fertilizers	1,223	1,562
Mineral Fuels		
Coal, including briquettes	4,199	2,374
Natural gas 1/	7,539	7,314
Petroleum	15,367	15,873

1/ Million cubic meters

Sources: Central Statistical Office of Poland, Statistical Yearbook, 1999, 2000; The Polish Academy of Sciences, Minerals Yearbook of Poland 1994-1998.

TABLE 4
POLAND: EXPORTS OF SELECTED MINERAL COMMODITIES

(Thousand metric tons unless otherwise specified)

Commodity	1998	1999
Metals:		
Aluminum and articles thereof	148	169
Copper and copper alloys	193	230
Steel and steel semimanufactures	2,065	1,876
Silver 1/	1,033	1,057
Zinc	81	102
Industrial minerals:		
Glass	362	370
Cement	2,131	1,617
Sulfur	833	801
Mineral fuels:		
Coal	28,078	24,104
Coke and semicoke	3,252	2,875
Refined petroleum	1,844	1,970

1/ Metric tons.

Sources: Central Statistical Office of Poland, Statistical Yearbook, 1999, 2000; The Polish Academy of Sciences, Minerals Yearbook of Poland, 1994-1998.

TABLE 5
POLAND: STRUCTURE OF THE MINERAL INDUSTRY IN 1999 1/

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Aluminum:			
Primary	Huta Aluminium "Konin" S.A.	Konin	52.
Secondary	Zaklady Metalurgiczne "Skawina" Zaklady Metali Lekkich SA "Kety" Zaklady Metalurgiczne "Trzebinia"	Skawina Kety Trzebinia	20.
Barite 2/	Kopalnia Barytu "Buguszow" Sp. z.o.o.	Boguszow, Stanislawow	40.
Cement:			
Do.	Zaklady Cementowo-Wapiennicze "Gorzdze" S.A.	Chorula	1,800 clinker, 2,400 cement.
Do.	Cementownia "Ozarow" S.A.	Ozarow	2,200 clinker, 2,400 cement.
Do.	Cementownia "Chelm" S.A.	Chelm	1,440 clinker, 2,640 cement.
Do.	Kombinat Cementowo-Wapienniczy "Warta" S.A.	Dzialoszyn	600 clinker, 1,150 cement.
Do.	Cementownia "Malogoszcz" S.A.	Malogoszcz	1,840 clinker, 1,800 cement.
Do.	Zaklady Cementowo-Wapiennicze "Nowiny" S.A.	Sitkowka	785 clinker, 1,070 cement.
Do.	Cementownia "Strzelce Opolskie" S.A.	Strzelce Opolskie	1,257 clinker, 1,630 cement.
Do.	Kombinat Cementowo-Wapienniczy "Kujawy" S.A.	Bielawy	900 clinker, 1,000 cement.
Do.	Cementownia "Rudniki" S.A.	Rudniki	840 clinker, 1,470 cement.
Do.	Cementownia "Wierzbica" S.A.	Wierzbica	759 clinker, 1,000 cement.
Do.	Cementownia "Nowa Huta" S.A.	Krakow	290 clinker, 1,100 cement.
Do.	Cementownia "Rejowiec" S.A.	Rejowiec	600 clinker, 845 cement.
Do.	Cementownia "Odra" S.A.	Opole	433 clinker, 800 cement.
Do.	Cementownia "Warszawa"	Warszawa (Warsaw)	600 cement.
Do.	Cementownia "Groszowice" Sp. z.o.o.	Opole	304 clinker, 425 cement.
Do.	Cementownia "Polcement-Saturn"	Wojkowice	400 cement
Do.	Cementownia "Wiek"	Ogrodzieniec	710 clinker, 240 cement.
Do.	Fabrika Cementu "Wysoka"	Lazy	304 clinker, 425 cement.
Do.	Cementownia "Wejhorowie"	Wejhorowo	42 clinker, 45 cement.
Coal:			
Anthracite	Zaklad Wydobywczco Przetworczy Antracytu Walbrzych-Gaj	Lower Silesia	200.
Bituminous	Bytomska Spolka Weglowa S.A. Rudzka Spolka Weglowa S.A. Gliwicka Spolka Weglowa S.A. Katowicki Holding Weglowy S.A. Nadwislanska Spolka Weglowa S.A. Rybnicka Spolka Weglowa S.A. Jastrzebska Spolka Weglowa S.A. Seven independent mines Walbrzyskie Kopalnie Wegla Kamiennego KWK "Nowa Ruda" KWK "Bogdanka" S. A.	Upper Silesia (9 mines) do. (6 mines) do. (7 mines) do. (11 mines) do. (8 mines) do. (5 mines) do. (6 mines) do. Lower Silesia do. do.	140,000.
Lignite	KWK "Belchatow" KWK "Turow" KWK "Konin" KWK "Adamow" KWK "Sieniawa"	Belchatow Turow Konin Adamow Sieniawa	75,000.

See footnotes at end of table.

TABLE 5--Continued
POLAND: STRUCTURE OF THE MINERAL INDUSTRY IN 1999 1/

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Coke	Zakłady Koksownicze im. Powstanców Śl.	Upper Silesia	12,000.
	Zakłady Koksownicze "Przyjazn"	do.	
	Kombinat Koksochemiczny "Zabrze"	do.	
	Huta im. Sendzimira	do. (Kraków)	
	Huta "Częstochowa"	do. (Częstochowa)	
	Zakłady Koksownicze "Walbrzych"	Lower Silesia	
Copper:			
Concentrate, gross weight	Kombinat Gorniczo Hutniczy Miedzi (KGHM) Polska Miedz S.A.	Mines and concentrators at Konrad, Lubion, Polkowice, Rudna, and Sieroszowice	1,900 (385 Cu).
Metal, refined	do.	Refineries at Głogów I, Głogów II, and Legnica	415.
Feldspar	Strzeblowskie Kopalnie Surowców Mineralnych	Mine at Sobotka, Lower Silesia, workings at Pagorki Zachodnie and Pagorki Wschodnie	50
Ferrous alloys:			
Electric furnace (FeSiMn, FeMn, FeCr, FeSi)	Huta "Łaziska" S.A.	Upper Silesia at Łaziska Gome	170.
Blast furnace (FeMn)	Huta "Pokoj" S.A.	Upper Silesia, Ruda Śląska	90.
Gold kilograms	KGHM "Polska Miedz" S.A.	Refinery at Głogów "Trzebinia"	550.
Gypsum and anhydrite	Zakłady Przemysłu Gipsowego "Dolina Nidy"	Southeastern Poland, Gacki	1,400.
	Zakład Gipsowy "Stawiany"	Southeastern Poland, Szarbków	
	Kopalnia Anhydrytu "Nowy Ład" KGHM "Polska Miedz" S.A.	Lower Silesia, Niwnice Lower Silesia, Iwiny	
Helium million cubic meters	Zakład Odazotowania Gazu	Western Poland, Odolanów	3.
Kaolin	KSM "Surmin-Kaolin" S.A.	Lower Silesia, Nowogrodziec	50.
Lead-zinc:			
Concentrate	Zakłady Gorniczo-Hutnicze "Bolesław" Zakłady Gornicze "Trzebinia" S.A.	Mines and concentrators at Olkusz and Pomorzany, Bukowno region Mines and concentrator at Trzebinia	60 Pb, 160 Zn.
Metal:			
Pb, refined	Huta Cynku "Miasteczko Śląskie"	Refinery at Miasteczko Śląskie	60.
Do.	Huta Metali Niezależnych "Szopienice"	Katowice	35.
Zn, refined	Huta Cynku "Miasteczko Śląskie"	Imperial Smelter at Miasteczko Śląskie	60.
Do.	Zakłady Metalurgiczny "Silesia" (input from Huta "Miasteczko Śląskie")	Refinery at Katowice	(30).
Do.	Zakłady Gorniczo-Hutnicze "Bolesław"	Refinery at Bolesław	65.
Do.	Huta Metali Niezależnych "Szopienice"	Katowice	28.
Lime	In order of size:		4,500.
	Zakłady Przemysłu Wapienniczego Truskawica	Kieleckie County, Świętokrzyskie Mountains	
	Śląskie Zakłady Przemysłu Wapienniczego Opolwap S.A.	Opole County	
	Zakłady Przemysłu Wapienniczego Bukowa	Kieleckie County, Świętokrzyskie Mountains	
	Kombinat Cementowo-Wapienniczy Kujawy S.A.	Bydgoskie County	
	Zakłady Cementowo-Wapiennicze Gorządze S.A.	Opole County	
	Zakłady Cementowo-Wapiennicze Nowiny	Kieleckie County	
Produkccyjno-Handlowo-Usługowe Wapno-Sabinów Wojcieszowskie Zakłady Przemysłu Wapienniczego Sp. z o.o.	Częstochowa County Jeleniogorskie County		
Zakłady Przemysłu Wapienniczego w Sulejowie	Piotrkowskie County		
Zakład Wapienniczy w Plazie	Katowickie County		
Natural gas million cubic meters	Ministry of Mining and Energy	Gasfields at pre-Carpathian foothills, Carpathian Mountains Lowlands, near Ostrow Wielkopolski, Poznań, and Trzebnica, north of Wrocław	4,900.
Nitrogen:			
Ammonia (NH ₃)	Zakłady Azotowe "Puławy" S.A. Zakłady Azotowe "Kędzierzyn" S.A. Zakłady Azotowe "Wrocław" S.A. Zakłady Azotowe S.A. w Tarnowie Zakłady Azotowe S.A. w Chorzowie Zakłady Chemiczne "Police"	Puławy in eastern Poland Kędzierzyn in Upper Silesia Wrocław in central Poland Tarnów in southern Poland Chorzów in Upper Silesia Police in northwest Poland	2,400.
Fertilizer (N)	do.	do.	1,700.

See footnotes at end of table.

TABLE 5--Continued
POLAND: STRUCTURE OF THE MINERAL INDUSTRY IN 1999 1/

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Petroleum :			
Crude	Polskie Gornictwo Naftowe i Gazownictwo Warszawa	Oilfields in northern and northwestern lowlands; sub-Carpathian region and Carpathian Mountains	200.
	Predsiębiorstwo Poszukiwan i Eksploatacji Rpy i Gazu "Petrobaltic"	Baltic Sea shelf	100
Do. Refined	"Petrochimia-Plock" Rafineria "Gdansk" Rafineria "Czechowice" Rafineria "Trzebinia" Rafineria "Glimar" Gorilice Rafineria "Jedlicze" Podkarpackie Zaklady Rafineryjne w Jasle	Plock in central Poland Gdansk in northern Poland Czechowice in southern Poland Trzebinia in southern Poland Gorilice in southern Poland Jedlicze in southern Poland Jaslo in southern Poland	13,500.
Salt, all types	Inowroclawskie Kopalnie Soli S.A. Kopalnia Soli "Klodawa" Kopalnia Soli "Wieliczka" Kopalnia Soli "Bochnia" KGHM "Polska Miedz" S.A. Kopalnia Wegla Kamiennego "Debiensko" Janikowskie Zaklady Sodowe "Janikosoda" S.A.	Gora, Mogilno I, and Mogilno II mines at Inowroclaw in central Poland Klodawa in central Poland Wieliczka in southern Poland, near Krakow, mining deposits at Barycz and Wieliczka Southern Poland, mines at the Lezkowice and Siedlec-Moszczenica-Lapczyca deposit. Not known to have operated in 1999 Sieroszowice in southwestern Poland Debiensko, Upper Silesia Janikowo in central Poland	6,500.
Selenium	Huta Metali Niezaleznych 'Szopienice" KGHM "Polska Miedz" S.A.	Katowice Refinery at Glogow	80.
Silver	KGHM "Polska Miedz" S.A. Zaklady Metalurgiczne Trzebinia	Refined from dore produced by the Szopienice Pn-Zn smelter-refinery largely from KGHM supplied slimes	1.
Steel:			14,000 (crude).
Crude and semimanufactures	Huta "Katowice" S.A. P.P. Huta im. T. Sendzimir P.P. Huta "Zawierciu" P.P. Huta "Czestochowa" Huta "Ostrowiec" S.A. P.P. Huta "Labyd" Huta "Lucchini-Warszawa" Sp. z o.o. P.P. Huta "Florian" Huta "Stalowa Wola" S.A. Huta "Jednosc" S.A Huta "Batory" S.A. P.P.Huta "Baildon" Huta "Malapanew" S.A. Huta "Zabrze" S.A. Huta "Zygmunt" S.A.	Plant at Dobrowa Gornicza, producing pig iron, crude steel, hot-rolled products, and cast steel Steelworks at Krakow, producing pig iron, crude steel, hot- and cold-rolled products, pipes, and cast iron Steelworks at Zawierciu, producing crude steel, hot-rolled products, cast iron, and cast steel Steelworks at Czestochowa, producing pig iron, crude steel, hot-rolled sheets, pipes, and cast iron Steelworks at Ostrowiec-Swietokrzyski, producing crude steel and hot-rolled products Steelworks at Gliwice, producing crude steel, and hot-rolled products Steelworks in Warsaw, producing crude steel, hot- rolled products, and cold-rolled strip Steelworks in Swietochlowicach, producing crude steel, hot-rolled products, galvanized sheet, and cold-rolled strip Steelworks at Stalowa Wola, producing crude steel Steelworks at Siemianowice Slaskie, producing crude steel, hot-rolled products, and pipes Steelworks at Chorzow, producing crude steel, hot-rolled products, and pipes Steelworks in Katowice, producing crude steel, hot-rolled products, cold-rolled strip, and cast steel Steelworks at Ozimek, producing crude steel and cast steel Steelworks at Zabrze, producing crude steel, cast iron, and cast steel Steelworks at Bytom, producing crude steel, cast iron, and crude steel	

See footnotes at end of table.

TABLE 5--Continued
POLAND: STRUCTURE OF THE MINERAL INDUSTRY IN 1999 1/

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Steel--Continued:			
Semimanufactures only	P.P. Huta im. Cedlera	Steelworks in Sosnowiec, producing hot-rolled products, cold-rolled strip, and cast iron	
	P.P. Huta "Kosciuszko"	Steelworks at Chorzow, producing hot-rolled products	
	Huta "Pokoj" S.A.	Steelworks at Ruda Slaska, producing hot-rolled products	
	Huta "Andrzej" S.A.	Steelworks at Zawadskie, producing pipes	
	Huta "Ferrum" S.A.	Steelworks in Katowice, producing pipes	
	P.P. Huta "Bobrek"	Steelworks in Bytom, producing pig iron, hot-rolled products, and cast iron	
	Huta "Buczek" S.A.	Steelworks in Sosnowiec, producing pipes and cast iron	
	P.P. Huta "1 Maja"	Steelworks in Gliwice, producing hot-rolled products	
	Zaklad Wielkopiecowy "Szczecin" Sp. z o.o.	Steelworks at Szczecin, producing pig iron	
Sulfur	P.P. Kopalne i Zaklady Przetworcze Siarki "Siarkopol"	Operations at Tarnobrzeg, mining the Jeziorko-Grebow-Wydza deposit.	5,700.
	P.P. Kopalnie i Zaklady Chemiczne Siarki "Siarkopol"	Operations at Grzybow, mining the Osiek and Grzybow-Gacki deposits.	

1/ The data presented in this table was compiled, in large measure, from information provided in the Minerals Yearbook of Poland (Bilans Gospodarki Surowcami Mineralnymi w Polsce Na Tle Gospodarki Swiatowej 1995) prepared and published by the Department of Mineral and Energy Policy, Mineral and Energy Economy Research Centre of the Academy of Science of Poland, The Ministry of Environmental Protection, Natural Resources, and Forestry. Additionally, very valuable information and criticism was provided by Mr. Krystof Galos and other members of this academic department.

2/ The production of barite at the "Boguszow " Barite Mine was stopped in 1997 because of large-scale area flooding and its future status is uncertain.