



2015 Minerals Yearbook

ZIMBABWE [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF ZIMBABWE

By James J. Barry

Zimbabwe's real gross domestic product (GDP) increased by 1.1% in 2015 compared with 3.8% growth in 2014. The real GDP at market prices was about \$12.3 billion in 2015. Zimbabwe's diverse mineral output included about 2.7% of the world's diamond production (by weight), 4.8% of the world's palladium output, and 7% of the world's platinum production. Zimbabwe was the world's third-ranked producer of platinum, fifth-ranked producer of palladium, and eighth-ranked producer of diamond (Ministry of Finance, 2016, p. 6; Kimberley Process Certification Scheme, 2016; Loferski, 2017).

Minerals in the National Economy

In 2015, the mining and quarrying sector accounted for about 8.8% of real GDP. Estimated real GDP growth in the mining and quarrying sector was -2.5%, contributing to the slowed overall growth rate of Zimbabwe's economy. Minerals were projected to account for about 56% of the total value of exports, with gold, platinum-group metals (PGMs), nickel, and diamond accounting for about 21%, 18%, 8%, and 5%, respectively, of the total value of exports. Fuel products, such as diesel and petrol, were projected to account for 19% of total imports. For 2015, the formal mining and quarrying sector accounted for an annual average of 36,800 employees (Ministry of Finance, 2015, p. 24; Reserve Bank of Zimbabwe, 2016; Zimbabwe National Statistics Agency, 2016, p. 12, 19).

The Ministry of Mines and Mining Development manages the mineral sector in accordance with the Mines and Minerals Act (chapter 21:05), the Mining (General) Regulations, 1977, and their amendments. Licensing and regulation of the petroleum industry is covered under the Petroleum Act of 2001, though there is no current petroleum production. Mining operations are regulated by numerous other acts, amendments, regulations, statutory instruments, and general notices. In accordance with the Minerals Marketing Corp. of Zimbabwe Act [as modified by the Minerals Marketing Corp. (Exemption) Regulations, 1983, and the Precious Stones Trade Act, 1978], state-owned Minerals Marketing Corp. of Zimbabwe (MMCZ) officially marketed much of the mineral production of Zimbabwe. A notable official exception was PGMs. Mining companies that produced PGM concentrates and smelter matte in Zimbabwe directly shipped the PGM concentrates and matte to processing facilities in South Africa. Corporate income taxes ranging from 15% to 25% and mining royalties of 1% to 15%, which were based on the value of minerals or mineral-bearing products that were shipped from the mine site, were payable to the Zimbabwe Revenue Authority (Ministry of Mines and Mining Development, 2004, 2016; Chamber of Mines of Zimbabwe, 2017).

Production

In 2015, production increased for gold by 30%, and silver, 30%, compared with that of 2014, and initial tungsten production

commenced at British Virgin Islands-based Premier African Minerals Ltd.'s (Premier's) RHA tungsten mine. Production decreased for a number of mineral commodities, including refined nickel, by 79%; vermiculite, 66%; chromite, 49%; ferrochromium, 46%; coal, 25%; coke, 25%; diamond, 27%; sulfur, 27%; and nitrogen, 25%. There was no refined copper production in 2015 owing to insufficient feedstock to RioZim Ltd.'s Empress nickel refinery. Reported and estimated production for the other commodities was relatively unchanged (table 1).

Structure of the Mineral Industry

Domestic and international investment companies, domestic and international mining companies, Government-owned companies, mining cooperatives, multinational cement companies, and small-scale miners conducted mineral operations in Zimbabwe in 2015. With some negotiated exceptions, ownership of mineral operations in Zimbabwe by domestic or international nonindigenous corporations or people was limited by statute. State-owned companies involved in the mineral sector included MMCZ, Zimbabwe Mineral Development Corporation (ZMDC) and its subsidiaries, and subsidiaries of the state-owned Industrial Development Corporation of Zimbabwe, which produced industrial minerals and mineral-based commodities (table 2).

Commodity Review

Metals

Chromium and Ferroalloys.—In 2011, the Government reinstated its ban on the export of chromite ore, including briquettes and concentrate. The ban was instituted to encourage the construction of new smelters, which would allow Zimbabwe to export value-added ferrochrome instead of chromite ore. In June 2015, the Government lifted the ban owing to the adverse effect that it had on artisan producers and because it did not generate new domestic smelting operations. Additionally, the Government removed a 20% export tax on chromite ore. Zimbabwe Mining and Smelting Co. (Zimasco) had scaled back production in 2014 and ceased production throughout 2015. By yearend, however, Zimasco had signed a \$12 million lease agreement with Portnex International of South Africa to operate Zimasco's furnaces at its plant in Kwekwe. Production was expected to resume in January 2016 (Chidakwa, 2015; Lovemore and Mangisi, 2015; Mhlanga, 2016).

Copper and Nickel.—In 2015, Zimbabwe's copper production decreased slightly to 8,218 metric tons (t) of copper concentrate from 8,261 t produced in 2014. In 2015, nickel production was 16,109 t compared with 16,633 t in 2014, which was a decrease of about 3%. Most of Zimbabwe's copper and nickel production was from Bindura Nickel Corp.'s (BNC's; a subsidiary of Asa Resources Group PLC of the United Kingdom) Trojan

Mine, which is located about 100 kilometers (km) northeast of Bulawayo. Copper and nickel were also produced as coproducts of PGM production (table 1; Asa Resource Group PLC, undated).

In 2015, there was very little production of refined copper or nickel. In March it was announced that a \$20 million bond was issued in advance of a December restart; however, the BNC smelter and refinery remained on care-and-maintenance status. Base-metal production at the Empress nickel refinery was limited to 617 t of refined nickel, which was a 79% decrease from that of 2014. The decrease in production was a result of very limited supply from the refinery's sole supplier of copper-nickel smelter matte, BCL Ltd. of Botswana, which underwent a series of shutdowns in 2014 (Dzirutwe, 2015; RioZim Ltd., 2015, p. 9; 2016, p. 14).

Platinum-Group Metals.—In 2013, the Government announced that it expected that, by yearend 2014, the three domestic PGM mining companies would establish a PGM refinery in Zimbabwe that would conform to the Government's desire to produce value-added mineral commodities in Zimbabwe instead of exporting ores and smelter matte for beneficiation. To encourage the construction of processing facilities for PGMs in Zimbabwe, the Government proposed to tax exports of several unprocessed minerals (including PGMs) or to ban the export of unprocessed minerals. The Chamber of Mines of Zimbabwe estimated that domestic platinum production would have to exceed 16 metric tons per year to justify the cost to build and operate a PGM refinery. In August 2015, the Government suspended a 15% export tax on raw platinum ore for 2 years. Zimbabwe imposed the tax as an effort to create incentives for domestic processing of the ore. The 2-year suspension gave more time for platinum-mining companies to construct smelters and refineries. Zimplats Holdings Ltd. (Zimplats) of Guernsey [United Kingdom] was in the process of refurbishing its Selous Metallurgical Complex base-metal refining plant. In 2015, platinum production was 12,564 kilograms (kg), which was a 0.6% increase from the 12,483 kg produced in 2014, and palladium production was 10,055 kg, which was a 0.8% decrease from the 10,138 kg produced in 2014 (table 1; Chinamasa, 2013, p. 172; Makichi, 2013; Thomson Reuters, 2014; Jamasmie, 2015; Mataranyika, 2016).

In February, Mimosa Holdings completed a prefeasibility study on the Mtshingwe expansion of the Mimosa Mine (Mimosa). The expansion was expected to cost \$182 million during a 5-year period and to increase Mimosa's reserve base by 55%. In October, it was announced that Sibanye Gold Ltd. of South Africa was in the process of acquiring the 50% interest in Mimosa held by Aquarius Platinum Ltd. of Bermuda. The other 50% was held by Impala Platinum Holdings Ltd. of South Africa. In 2015, Mimosa produced about 3,650 kg of platinum, 2,880 kg of palladium, 317 kg of rhodium, and 3,470 t of nickel (Aquarius Platinum Ltd., 2015, p. 15; Impala Platinum Holdings Ltd., 2016, p. 58, 59, 61; Sibanye Gold Ltd., 2016, p. 8; 2017).

Tungsten.—In June, Premier commenced operation of the open pit RHA tungsten mine, which was located about 270 km northwest of Bulawayo. By early November, however, production was suspended as Premier was unable to produce ore at a sustainable grade. Ore recovered from the open pit was of lower

than expected grade, which proved to be uneconomical and led the company to move to underground mining. The mine plan for the RHA tungsten mine already included underground mining of higher grade ore. Premier intended to begin mining underground after the more easily accessible open pit resources were depleted. Premier announced that the mine would likely resume operations in 2016 (Premier African Minerals Ltd., 2015, p. 2; 2016, p. 2).

Industrial Minerals

Diamond.—In 2015, diamond production decreased by nearly 27% to just under 3.5 million carats compared with that of 2014. During the past several years, the alluvial diamond in the surface and near surface was rapidly extracted from the Marange diamondfield. According to Zimmisky (2014), diamond remained in the underlying conglomerate rock; however, extraction of most of the diamond was not economically feasible. Additionally, in October, the Government declared all licenses in the Marange diamondfield expired. This was done as part of the Government's efforts to consolidate the diamond mining companies to increase the economies of scale and to enable the continued and more efficient production of diamond. The consolidation would merge all diamond producers into the Zimbabwe Consolidated Diamond Corp. The merger was expected to be completed in 2016, with the Zimbabwe Mining Development Corp. being a 50% owner and the merged companies sharing the remaining 50% (table 1; Mangudhla, 2015).

Outlook

Zimbabwe has abundant mineral resources and a well-developed transportation system. The rehabilitation of the mining industry and the expansion of production could be a basis for the growth of Zimbabwe's GDP. Mineral sector activities are expected to continue to be constrained by ongoing political issues, however, especially the implementation of the Indigenization and Economic Empowerment Act, which has been inconsistently applied to corporations, discouraging investment; export taxes on chromium, diamond, and platinum; bans on exports of raw mineral resources; and decreases in global mineral commodity prices. Shortages of electrical power, fuel, and skilled employees also are expected to continue to adversely affect mineral sector operations in the near term.

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TABLE 1
ZIMBABWE: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2011	2012	2013	2014	2015
METALS					
Chromite, gross weight ³	599,079	408,475	355,142	408,425	208,328
Cobalt, metal content ^{3,4}	174	195	319	358	355
Copper:					
Mine output, concentrate, Cu content	6,000 ^e	6,300 ^e	8,285 ³	8,261 ³	8,218 ³
Metal, refinery output, refined/cathode, primary	4,355 ³	2,869 ³	3,360 ^e	3,300 ^e	--
Gold ³ kilograms	12,949	14,745	14,001	15,385	20,023
Iron and steel:					
Metal:					
Steel, crude	-- ^r	-- ^r	-- ^r	-- ^r	--
Ferroalloys, ferrochromium: ³	140,000	137,534	150,060	214,110	115,586
Nickel:					
Mine output, concentrate, Ni content ³	7,992	7,899	12,962	16,633	16,109
Refinery output, refined metal:					
Refined from imported materials ³	3,715 ³	1,754	2,845	2,915 ^r	617
Platinum-group metals: ³					
Iridium kilograms	398	412	520	544	507
Palladium do.	8,422	8,136	10,153	10,138	10,055
Platinum do.	10,827	10,524	13,066	12,483	12,564
Rhodium do.	940	891	1,146	1,140	1,128
Ruthenium do.	823	787	1,012	983	977
Total do.	21,410	20,750	25,897	25,288	25,231
Silver ^e do.	550	600	590	648 ^r	843
Tungsten concentrate, W content	--	--	--	--	NA ⁵
INDUSTRIAL MINERALS					
Asbestos	--	30	377	--	--
Cement, hydraulic ^e thousand metric tons	1,000	1,100	1,200	1,300	1,300
Clays, common	700	700	700	700	700
Diamond ³ carats	8,502,648	12,060,163	10,411,818	4,771,637	3,490,881
Graphite ³	7,252	7,022	6,934	6,853	6,362
Lithium minerals, gross weight ^e	48,000	53,000	50,000	50,000	50,000
Mica	1,000	1,000	1,000	1,000	1,000
Nitrogen, N content of ammonia ^e	26,000	25,000	27,000	20,000 ^r	15,000
Perlite	1,000	1,000	1,000	1,000	1,000
Phosphate rock, marketable concentrate ^e	60,000	20,000	6,100	9,000	9,000
Stone, sand and gravel:					
Granite, black ³ thousand metric tons	500	171 ^r	174 ^r	180 ^r	182 ^e
Limestone ^e do.	50	50	55	60	60
Sulfur, byproduct acid, metallurgical and coal process gas, S content ^e	1,000	1,000	1,100	1,100	800
Vermiculite	--	21,625 ^r	28,808 ^r	29,500 ^e	10,000 ^e
MINERAL FUELS AND RELATED MATERIALS					
Coal, bituminous ³ thousand metric tons	2,562	3,500 ^e	3,114	5,783	4,336
Coke, including metallurgical ^e do.	240	370	200	550 ^r	400

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

¹Table includes data available through March 17, 2017.

²In addition to the commodities listed, secondary aluminum; clays; corundum; feldspar; such gemstones as amethyst, aquamarine, emerald, iolite, and tourmaline; kaolin; kyanite; secondary lead; mica; perlite; and ores of antimony, tantalum, and tin may have been produced, but available information was inadequate to make reliable estimates of output.

³Reported figure.

⁴Includes metal content of cobalt compounds recovered from exported ore and smelter matte. Does not include cobalt compounds recovered from the Ngezi Mine or cobalt sulfate recovered from the Unki Mine. Data for 2011–13 reported by the Zimbabwe National Statistics Agency and may include cobalt recovered in Zimbabwe from imported materials.

⁵Production commenced at the RHA Tungsten mine in June 2015, but available data were not sufficient to make a reliable estimate of output.

TABLE 2
ZIMBABWE: 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
Asbestos	African Associated Mines (Private) Ltd.	Shabanie Mine, Zvishavane	2,400,000 ¹
Do.	do.	Gaths Mine, Mashava	1,400,000 ¹
Cement:			
Clinker	Portland Holdings Ltd. [Pretoria Portland Cement Company Ltd. (PPC)]	Colleen Bawn, about 115 kilometers southeast of Bulawayo	1,000,000
Portland	Lafarge Cement Zimbabwe Ltd. (LafargeHolcim, S.A.)	Harare	450,000
Do.	Portland Holdings Ltd. [Pretoria Portland Cement Company Ltd. (PPC)]	Bulawayo	800,000
Do.	Sino-Zimbabwe Cement Company Ltd. (China Building Material Industrial Corporation for Foreign Economic Cooperation and Industrial Development Corp.)	Gweru	250,000
Chromite	Local cooperatives and small-scale miners	Mines on the southern Great Dyke	340,000 ¹
Do.	do.	Mines on the northern Great Dyke	230,000 ¹
Do.	Zimbabwe Alloys Ltd. (Zim Alloys)	Inyala Mine	60,000 ¹
Do.	Zimbabwe Mining and Smelting Co. (Private) Ltd. (Zimasco) [Zimasco Consolidated Enterprises Ltd. (ZCE)]	Mining operations near Darwendale, Lalapanzi, Mutorashanga, Ngezi, and south of Shurugwi	300,000 ¹
Coal	Chilota Colliery	Hwange	1,800,000
Do.	Coal Brick (Private) Ltd.	Coal Brick mine, Hwange	500,000
Do.	Coal Zimbabwe (Private) Ltd. (Steelmakers Zimbabwe (Private) Ltd.)	Chiredzi, about 130 kilometers southeast of Masvingo	1,200,000
Do.	Hwange Colliery Company Ltd. [Government, 36.77%; Messina Investments Ltd., 16.468%; Mittal Steel African Investments, 9.68%; National Social Security Authority, 6.23%; Hamilton and Hamilton Trustees LTD-NNR, 5.13%	3 Main Underground Mine, plus the Chaba open pit mine, and the JKL open pit mine, Hwange	5,000,000
Do.	Makomo Resources (Private) Ltd.	Entuba coalfields, near Hwange	2,400,000
Do.	Sengwa Colliery (Private) Ltd. (RioZim Ltd.)	Sengwa Colliery, about 200 kilometers northeast of Kadoma	5,000,000 ¹
Do.	South Mining	Hwange	144,000
Do.	Tulicoal (Private) Ltd. [Senzile Mining (Private) Ltd.]	Sengwa Colliery, about 200 kilometers northeast of Kadoma	1,200,000 ¹
Cobalt:			
Ore, cobalt content	Bindura Nickel Corporation Ltd. (Asa Resources PLC, 74.73%; common shares, 25.27%)	Trojan Mine at Bindura and Shangani Mine, ¹ about 100 kilometers northeast of Bulawayo	800
Do.	Mimosa Holdings (Private) Ltd. (Aquarius Platinum Ltd., Impala Platinum Holdings Ltd., and Zvishavane Community Share Ownership Trust)	Mimosa Mine, east of Zvishavane	88
Do.	Unki Mines (Private) Ltd. (Anglo Platinum Ltd.)	Unki Mine, southeast of Shurugwi	NA
Do.	Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Ngezi Mine, which includes the Ngwarati Mine (also known as Portal 1), the Rukodzi Mine (Portal 2), the Mupfuti Mine (Portal 3), ² and the Bimha Mine (Portal 4)	NA
Hydroxide	BSR Ltd. (Bindura Nickel Corporation Ltd., 100%)	Bindura	700 ¹
Do.	Empress Nickel Refinery (RioZim Ltd.)	Eiffle Flats, near Kadoma	NA
Coke	Hwange Coal Gasification Company (Private) Ltd. [Taiyuan Sanxing Coal Gasification Co., Hwange Colliery Company Ltd., and Stoa Mining (Private) Ltd.]	Hwange	144,000
Do.	Hwange Colliery Company Ltd. [Government, 36.77%; Messina Investments Ltd., 16.468%; Mittal Steel African Investments, 9.68%; National Social Security Authority, 6.23%; Hamilton and Hamilton Trustees LTD-NNR, 5.13%	do.	230,000

See footnotes at end of table.

TABLE 2—Continued
ZIMBABWE: 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
Copper:				
Ore, copper content		Bindura Nickel Corporation Ltd. (Asa Resources PLC, 74.73%; comi shares, 25.27%)	Trojan Mine at Bindura and Shangani Mine, ¹ about 100 kilometers northeast of Bulawayo	NA
Do.		Mimosa Holdings (Private) Ltd. (Aquarius Platinum Ltd., Impala Platinum Holdings Ltd., and Zvishavane Community Share Ownership Trust)	Mimosa Mine, east of Zvishavane	3,000
Do.		Unki Mines (Private) Ltd. (Anglo Platinum Ltd.)	Unki Mine, southeast of Shurugwi	1,000
Do.		Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Ngezi Mine, which includes the Ngwarati Mine (also known as Portal 1), the Rukodzi Mine (Portal 2), the Mupfuti Mine (Portal 3), ² and the Bimha Mine (Portal 4)	3,000
Refined		Empress Nickel Refinery (RioZim Ltd.)	Eiffle Flats, near Kadoma	6,000 ¹
Diamond	carats	Anjin Investments (Private) Ltd. [joint venture of Anhui Foreign Economic Construction Group and Matt Bronze (Private) Ltd.]	Marange deposit in the Chiadzwe area	NA ³
Do.	do.	Diamond Mining Corporation (Private) Ltd. [joint venture of Pure Diam and Zimbabwe Mining Development Corp. (ZMDC)]	do.	NA ³
Do.	do.	DTZ-OZGEO (Private) Ltd. (Joint venture of Development Trust of Zimbabwe and JSC Zarubezhgeologia)	Chimanimani	NA
Do.	do.	Gye Nyame Resources [joint venture of Zimbabwe Mining Development Corp. (ZMDC) and Bill Minerals]	Marange deposit in the Chiadzwe area	NA ³
Do.	do.	Kusena Diamonds [Zimbabwe Mining Development Corp. (ZMDC)]	do.	NA ^{2,3}
Do.	do.	Marange Resources (Private) Ltd. [Zimbabwe Mining Development Corp. (ZMDC)]	do.	NA ³
Do.	do.	Mbada Diamonds (Private) Ltd. [Zimbabwe Mining Development Corp. (ZMDC), 50%; remaining 50% split between Grandwell Holdings Ltd., MarangeResources (Private) Ltd., and Transfrontier Mining Company Ltd.]	do.	NA ³
Do.	do.	Murowa Diamonds (Private) Ltd. (Rio Tinto plc ⁴ , 77.8%; and RioZim Ltd., 22.2%)	Murowa Mine, near Zvishavane	403,000
Do.	do.	Limpopo Minerals Resources Ltd (Rani Investment LLC, 80%, and Khupukile Resources Ltd., 20%)	River Ranch Mine, near Beitbridge	NA ^{1,3}
Do.	do.	Sino Zimbabwe Development (Private) Ltd. [Zimbabwe Mining Development Corp. (ZMDC)]	Marange deposit in the Chiadzwe area	NA ³
Gold	kilograms	Artisanal miners, including small-scale miners and syndicates	Various locations	3,000 ^e
Do.	do.	Bilboes Holding (Private) Ltd.	The Bubi, the Isabella, the McCays, and the When Mines	10 ^e
Do.	do.	Blanket Mine (1983) (Private) Ltd. [Caledonia Mining Corp., 49%; National Indigenisation and Economic Empowerment Fund, 16%; Fremiro, 15%; Blanket Employee Trust Services (Private) Ltd., 10%; Gwanda Community Share Ownership Trust, 10%]	Blanket Mine, about 140 kilometers south of Bulawayo	1,300 ^e
Do.	do.	Casmyn Mining Zimbabwe (Private) Ltd. (New Dawn Mining Corp.)	Turk-Angelus Mine, 56 kilometers northeast of Bulawayo	550 ^e
Do.	do.	DTZ-OZGEO (Private) Ltd. (joint venture of Development Trust of Zimbabwe and JSC Zarubezhgeologia)	Placer mining operations at Penhalonga, about 15 kilometers northwest of Mutare	400 ^e
Do.	do.	Duration Gold Ltd. (Clarity Capital Group)	Vubachikwe Mine, near Gwanda	200 ^e
Do.	do.	do.	Athens Mine, Mvuma	100 ^e
Do.	do.	do.	Gaika Mine, Kwe Kwe	30 ^e
Do.	do.	do.	Sunace Mine, about 31 kilometers north of Bulawayo	5 ^e
Do.	do.	Falcon Gold Zimbabwe Ltd. (New Dawn Mining Corp.)	Golden Quarry Mine, about 7 kilometers north of Shurugwi	300 ^e

See footnotes at end of table.

TABLE 2—Continued
ZIMBABWE: 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
Gold—Continued:	kilograms	Falcon Gold Zimbabwe Ltd. (New Dawn Mining Corp.)	Dalny Complex, about 33 kilometers northwest of Chegutu	250 ^{e,1}
Do.	do.	F.A. Stewart (Private) Ltd.	Jessie Mine, east of Gwanda	150 ^e
Do.	do.	Jena Mine (Private) Ltd. [Zimbabwe Mining Development Corp. (ZMDC)]	Jena Mine	400 ^e
Do.	do.	John Mack and Co.	Golden Valley Mine	500 ^e
Do.	do.	Matebeland Minerals (Private) Ltd.	Turk Mine	600 ^e
Do.	do.	Metallon Gold Zimbabwe (Private) Ltd. (Metallion Corp.)	Arcturus Mine, 32 km east of Harare	500 ¹
Do.	do.	do.	How Mine, about 24 kilometers southeast of Bulawayo	1,300 ^e
Do.	do.	do.	Mazowe Mine, Mazowe	400 ^e
Do.	do.	do.	Redwing Mine, Penhalonga	200 ^e
Do.	do.	do.	Shamva Mine, Shamva	700 ^e
Do.	do.	Mimosa Holdings (Private) Ltd. (Aquarius Platinum Ltd., Impala Platinum Holdings Ltd., and Zvishavane Community Share Ownership Trust)	Mimosa Mine, east of Zvishavane	NA
Do.	do.	Asa Resource Group PLC	Freda Rebecca Mine, Bindura	3,700 ^e
Do.	do.	Olympus Mines Ltd. (Central African Gold Ltd.)	Camperdown Mine, north of Shurugwi	50 ^e
Do.	do.	do.	Old Nic Mine, Bulawayo	100 ^e
Do.	do.	Pan Reef Mining Company (Private) Ltd.	Indarama Mine	50 ^{e,3}
Do.	do.	RioZim Ltd.	Renco Mine, 75 kilometers south-southeast of Masvingo	1,000 ^e
Do.	do.	Sabi Gold Mines [Zimbabwe Mining Development Corp. (ZMDC)]	Sabi Mine	200 ^e
Do.	do.	Unki Mines (Private) Ltd. (Anglo Platinum Ltd.)	Unki Mine, southeast of Shurugwi	NA
Do.	do.	Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Ngezi Mine, which includes the Ngarati Mine (also known as Portal 1), the Rukodzi Mine (Portal 2), the Mupfuti Mine (Portal 3) ² , and the Bimha Mine (Portal 4)	NA
Graphite		Zimbabwe German Graphite Mines (Private) Ltd. [Graphite Kropfmühl division of AMG Advanced Metallurgical Group N.V., 50%; Zimbabwe Mining Development Corp. (ZMDC), 50%]	Lynx Graphite Mine, Karoi	NA
Iron and steel:				
Ferroalloys, ferrochromium		CINA	Smelter at Gweru	5,000 ^e
Do.		Jin An Corp. and Xin Yu Mining Corp.	do.	5,000 ^e
Do.		Maranatha Ferrochrome (Private) Ltd.	Smelter at Eiffel Flats	28,000 ¹
Do.		MonaChrome	Smelter at Chegutu	5,000 ^{e,1}
Do.		Olliken Ferro Alloys (Private) Ltd.	Smelter at Kwekwe	25,000 ¹
Do.		Wel Mining	Smelter at Gweru	5,000 ^{e,1}
Do.		Zimbabwe Alloys Ltd. (Zim Alloys)	do.	45,000
Do.		Zimbabwe Mining and Smelting Co. (Private) Ltd. (Zimasco) [Zimasco Consolidated Enterprises Ltd. (ZCE)]	Smelter at Kwekwe	180,000
Iron:				
Iron ore, gross weight		NewZim Minerals Private Ltd. (Essar Africa Holdings Ltd., 80%, and Government, 20%)	Ripple Creek Mine, near Redcliff	600,000 ¹
Sponge iron		Steelmakers Zimbabwe (Private) Ltd. (Steelmakers Ltd.)	Masvingo	54,000
Steel:				
Crude steel		NewZim Steel Private Ltd. (Essar Africa Holdings Ltd., 53.4%, and Government, 35.6%)	Blast furnace at Redcliff, near Gweru	72,000 ¹
Do.		Steelmakers Zimbabwe (Private) Ltd. (Steelmakers Ltd.)	Electric arc furnace at Redcliff	15,000
Rolled steel		Lancashire Steel (Private) Ltd. [Zimbabwe Iron and Steel Company (Private) Ltd. (Zisco)]	Wire rod mill at Kwekwe	120,000
Do.		Steelmakers Zimbabwe (Private) Ltd. (Steelmakers Ltd.)	Rolling mill at Redcliff	36,000

See footnotes at end of table.

TABLE 2—Continued
ZIMBABWE: 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
Lithium	Bikita Minerals (Private) Ltd.	Bikita Mine, 60 kilometers east of Masvingo	55,000
Nickel:			
Ore	Bindura Nickel Corporation Ltd. (Asa Resources PLC, 74.73%; common shares, 25.27%)	Trojan Mine at Bindura and Shangani Mine ¹ , about 100 kilometers northeast of Bulawayo	500,000 ^e
Ore, Ni content	Mimosa Holdings (Private) Ltd. (Aquarius Platinum Ltd., Impala Platinum Holdings Ltd., and Zvishavane Community Share Ownership Trust)	Mimosa Mine, east of Zvishavane	3,000
Do.	Unki Mines (Private) Ltd. (Anglo Platinum Ltd.)	Unki Mine, southeast of Shurugwi	1,000
Do.	Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Ngezi Mine, which includes the Ngwarati Mine (also known as Portal 1), the Rukodzi Mine (Portal 2), the Mupfuti Mine (Portal 3), ² and the Bimha Mine (Portal 4)	4,000
Refined metal	BSR Ltd. (Bindura Nickel Corporation Ltd., 100%)	Bindura	15,600 ¹
Do.	Empress Nickel Refinery (RioZim Ltd.)	Eiffle Flats, near Kadoma	9,000
Nitrogen (ammonium nitrate)	Sable Chemical Industries Ltd. [TA Holdings Ltd., 51%; Chemplex Corporation Ltd., 36%; Yara Zimbabwe (Private) Ltd., 12%]	Electrolysis plant north of Kwekwe	240,000
Phosphate rock:			
	Dorowa Minerals (Private) Ltd. (Chemplex Corporation Ltd.)	Dorowa Mine, 90 kilometers west of Mutare	155,000 ¹
Fertilizer	Zimbabwe Phosphate Industries Ltd. (Chemplex Corporation Ltd.)	Msasa plant, Harare	45,000
Platinum-group metals:			
Ore	kilograms Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Ngezi Mine, which includes the Ngwarati Mine (also known as Portal 1), the Rukodzi Mine (Portal 2), the Mupfuti Mine (Portal 3), ² and the Bimha Mine (Portal 4)	5,100,000
Do.	do. Mimosa Holdings (Private) Ltd. (Aquarius Platinum Ltd., 50%; Impa Platinum Holdings Ltd., 50%)	Mimosa Mine, east of Zvishavane	2,400,000
Do.	do. Unki Mines (Private) Ltd. (Anglo American Platinum Ltd.)	Unki Mine, southeast of Shurugwi	1,600,000
Concentrate	do. Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Ngezi concentrator, Ngezi Mine	3,400,000
Do.	do. do.	Selous concentrator, Selous Metallurgical Complex	2,180,000
Do.	do. Mimosa Holdings (Private) Ltd. (Aquarius Platinum Ltd., 50%; Impala Platinum Holdings Ltd., 50%)	Mimosa concentrator, east of Zvishavane	1,900,000
Smelter matte	do. Zimbabwe Platinum Mines (Private) Ltd. (Zimplats Holdings Ltd.)	Selous smelter, Selous Metallurgical Complex	72,000 192,000
Tungsten (WO ₃ content)	Premier African Minerals Ltd.	RHA Tungsten Mine, 270 km northwest of Bulawayo	
Pyrite	Iron Duke Pyrites (GAT Investments (Private) Ltd.)	Iron Duke Mine	NA
Vermiculite	Samrec Vermiculite Zimbabwe (Private) Ltd. (Imerys Group)	Shawa Mine, near Dorowa	39,000
Do.	Dinidza Vermiculite Mining Co. (Private) Ltd.	Dinidza Mine, near Dorowa	10,000

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

¹Operations suspended.

²Under development or redevelopment.

³Ownership disputed.

⁴In June 2015, Rio Tinto sold its 77.8% stake in Murowa Diamonds to RZ Murowa Holdings Ltd.