



# 2009 Minerals Yearbook

---

## AFRICA

---

# THE MINERAL INDUSTRIES OF AFRICA

By Harold R. Newman, Omayra Bermúdez-Lugo, Philip M. Mobbs,  
Mowafa Taib, Glenn J. Wallace, David R. Wilburn, and Thomas R. Yager

Africa is the world's second largest continent in terms of land area and has the second largest population after Asia. For many African countries, mineral production and development constitute a significant part of the economy and remain a key factor in their future economic growth. The continent is richly endowed in mineral resources and held a significant percentage of the world's reserves of bauxite, chromite, cobalt, crude oil, diamond, fluorspar, gold, manganese, phosphate rock, platinum-group metals (PGM), titanium minerals, vanadium, and zircon. Except for bauxite, cobalt, crude oil, diamond, and phosphate rock, the bulk of these reserves were located in South Africa.

## Acknowledgements

The U.S. Geological Survey (USGS) acknowledges and expresses its sincere appreciation to the following Government agencies, international institutions, and private research organizations for providing mineral production statistics, basic economic data, and mineral exploration and other mineral-related information:

- For mineral production statistics—
  - Algeria—Ministry of Energy and Mines;
  - Benin—Ministry of Mines, Energy, and Water;
  - Burundi—Ministry of Energy and Mines;
  - Côte d'Ivoire—National Institute of Statistics;
  - Egypt—Ministry of Petroleum; Ministry of Trade and Industry;
  - Ethiopia—Ministry of Mines and Energy;
  - Gambia—Geological Department;
  - Ghana—Minerals Commission;
  - Guinea—Ministry of Mines and Geology;
  - Mali—National Directorate of Geology and Mines;
  - Mauritania—National Office of Statistics;
  - Mauritius—Central Statistics Office;
  - Morocco—Minister of Energy, Mines, Water, and Environment; Directorate of Statistics;
  - Mozambique—National Directorate of Mines;
  - Namibia—Ministry of Mines and Energy;
  - Niger—Statistics Directorate of the Ministry of Mines and Energy; National Institute of Statistics;
  - Nigeria—Mines Inspectorate Department, Ministry of Mines and Steel Development;
  - South Africa—Department of Minerals and Energy, Mineral Economics Directorate;
  - Swaziland—Central Statistical Office;
  - Tanzania—Ministry of Energy and Minerals;
  - Tunisia—Industrial Promotion Agency;
- For basic economic data—
  - Economic Commission for Africa;
  - International Monetary Fund;
  - The World Bank Group; and
  - U.S. Central Intelligence Agency.

- For exploration and other mineral-related information—
  - Metals Economics Group (MEG).

## General Economic Conditions

The African economy is as diverse as the region. The financial crisis that engulfed the western financial markets in 2009 had a notable effect on South Africa's finance and mining sectors and on the economies of other African countries that depend on mineral exports. Lower international oil prices in 2009 affected the economic plans of many African petroleum-exporting countries, but, in most cases, lower oil prices aided the economies of petroleum-importing countries. In 2009, the growth rate of the gross domestic product of Africa decreased to 1.6% compared with a growth rate of 4.9% in 2008 (Economic Commission for Africa, 2010, p. 1, 4-6).

## Minerals in the Regional Economy

The mineral commodities boom that began in the mid-2000s wavered in 2009 in response to the global economic crisis as the prices of most mineral commodities decreased (owing in part to the decrease in international demand) with respect to those of 2008. For many mineral exploration and production companies that worked in Africa, the decrease in the price of minerals resulted in a significant reduction in the availability of funds to continue to operate. Many companies were forced to reduce mineral exploration or production activity or to suspend operations at their mines or plants. A notable exception was the gold sector; many of the companies that explored for or produced gold increased their activity owing to the price of gold, which continued to increase in 2009 in response to global economic crisis.

During the past few years, the continent had attracted significant investment in mineral development; this investment was expected to resume flowing to Africa in the future. Africa's mining potential remained significant.

## Exploration

Exploration activity, as defined by African exploration budgets reported by the MEG, decreased to \$1.1 billion in 2009 from \$1.9 billion in 2008. African exploration activity accounted for about 15% of the total worldwide exploration budget. In 2009, the principal mineral commodities of interest for exploration in Africa were copper, diamond, gold, PGM, and uranium. Exploration was focused primarily in (in order of the number of sites being actively explored) South Africa, Congo (Kinshasa), Zambia, Namibia, and Mali. Based on the number of active exploration sites, early-stage projects composed about 64% of the 2009 activity, which was an increase from about 53% in 2008 (Wilburn and Bourget, 2010).

## Mineral Production

### Metals

**Bauxite.**—In 2009, Africa accounted for 8% of the world's bauxite output, and 91% of African bauxite was mined in Guinea. African bauxite production decreased by 16% compared with that of 2008 owing in part to the lower international demand for aluminum associated with the global economic crisis (table 4).

**Chromium.**—About 38% of the world's output of chromium ore was produced by mines in Africa. The gross weight of chromite that was mined in Africa decreased by 30% in 2009 compared with that of 2008. South Africa mined more than 96% of Africa's total chromite output, and additional ore was mined in Madagascar, Sudan, and Zimbabwe (table 4).

**Cobalt.**—Mines in Congo (Kinshasa), Morocco, South Africa, Zambia, and Zimbabwe produced 51% of the world's cobalt ore. Congo (Kinshasa) accounted for about 88% of African output. In 2009, production of cobalt contained in ore was about 33,000 metric tons, which was about a 17% decrease compared with that of 2008 (table 4).

**Gold.**—South Africa accounted for 43% of African gold production in 2009; Ghana, about 18%; Mali, 9%; Tanzania, about 9%; and Guinea, 4%. South Africa's share of continental gold production continued to decrease because of rising production costs associated with deeper underground operations in South Africa; increased production in numerous countries, which included Algeria, Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Mali, Mauritania, Senegal, Tanzania, Togo, Zambia, and Zimbabwe; and the restart of gold production in Egypt. Egyptian gold production had ceased in 1958; commercial production of gold is expected to begin at the Hamash and the Sukari Mines in 2010 (table 4; Ministry of Petroleum, 2010).

**Manganese.**—In 2009, about 28% of the world's manganese ore output was mined in Africa. Leading manganese-producing nations in Africa, which included South Africa (57% of African output), Gabon (25%), and Ghana (about 13%), posted an average of 33% less output in 2009 than in 2008 (table 4).

### Industrial Minerals

**Diamond.**—In 2009, diamond mined in Africa accounted for 49% of the world's output compared with 55% in 2008. World diamond output decreased by about 29% to 109 million carats compared with 153 million carats in 2008. African diamond production decreased by almost 36% to about

54 million carats in 2009 compared with about 84 million carats in 2008. Sierra Leone and Zimbabwe were the only African diamond-producing countries that reported an increase in output in 2009. Botswana, Guinea, Namibia, South Africa, and Togo reported year-on-year decreases in output that exceeded 45%. Leading African diamond-producing countries included Congo (Kinshasa), with about 34% of African output in 2009; Botswana, about 33%; Angola, 13%; and South Africa, 11% (table 4).

**Phosphate Rock.**—Africa accounted for 27% of the world's phosphate rock output in 2009, when African production declined slightly (by 0.2%) compared with that of 2008. Leading African phosphate-rock-producing countries included Morocco, which accounted for nearly 58% of African output; Tunisia, about 17%; and Egypt, 14% (table 4).

### Mineral Fuels and Related Materials

**Petroleum.**—African crude oil production in 2009 of about 3.6 billion 42-gallon barrels was a decrease in production of 3.5% compared with that of 2008. Africa's 19 oil-producing countries accounted for 12% of the world's crude oil production. Within Africa, Nigeria accounted for about 22% of production in 2009; Angola, 19%; Algeria, 18%; and Libya, about 16% (table 4).

**Uranium.**—Africa accounted for about 18% of the world's uranium oxide ( $U_3O_8$ ) production in 2009. African production of uranium increased by about 10% compared with that of 2008. Uranium output increased at both of Namibia's operating mines (the Langer Heinrich and the Rössing Mines). Namibia accounted for about 10% of world production and 54% of African production in 2009. Niger mined 38% of African uranium output, and South Africa, 6%. Malawi, where uranium production began at the Kayelekera Mine in 2009, accounted for 1% of African uranium output (table 4).

### References Cited

- Economic Commission for Africa, 2010, Overview of economic and social conditions in Africa in 2009, *in* Meeting of the Committee of Experts of the 3rd Joint Annual Meetings of the AU Conference of Ministers of Economy and Finance and ECA Conference of African Ministers of Finance, Planning and Economic Development, Lilongwe, Malawi, March 25-28, 2010, Proceedings: Addis Ababa, Ethiopia, Economic Commission for Africa, 19 p. (Accessed September 1, 2011, at <http://www.uneca.org/cfm/2010/documents/English/Overview-ofEconomic-andSocialConditions-inAfrica.pdf>.)
- Ministry of Petroleum, 2010, Strategic projects: Ministry of Petroleum. (Accessed September 1, 2011, at <http://www.petroleum.gov.eg/en/ProjectsandActivities/StrategicProjects/Pages/GoldandElSoukry.aspx>.)
- Wilburn, D.R., and Bourget, M.R., 2010, Exploration review: Mining Engineering, May, p. 39-52.

TABLE 1  
AFRICA: AREA AND POPULATION IN 2009

Country	Area <sup>1</sup> (square kilometers)	Estimated population <sup>2</sup> (thousands)
Algeria	2,381,741	34,586
Angola	1,246,700	13,068
Benin	112,622	9,056
Botswana	581,730	2,029
Burkina Faso	274,200	16,242
Burundi	27,830	9,863
Cameroon	475,440	19,294
Cape Verde	4,033	509
Central African Republic	622,984	4,845
Chad	1,284,000	10,543
Comoros	2,235	773
Congo (Brazzaville)	342,000	4,126
Congo (Kinshasha)	2,344,858	70,916
Côte d'Ivoire	322,463	21,059
Djibouti	23,200	741
Egypt	1,001,450	80,472
Equatorial Guinea	28,051	651
Eritrea	117,600	5,793
Ethiopia	1,104,300	88,013
Gabon	267,667	1,545
Gambia, The	11,295	1,824
Ghana	238,533	24,340
Guinea	245,857	10,324
Guinea-Bissau	36,125	1,565
Kenya	580,367	40,047
Lesotho	30,355	1,920
Liberia	111,369	3,685
Libya	1,759,540	6,461
Madagascar	587,041	21,282
Malawi	118,484	15,448
Mali	1,240,192	13,796
Mauritania	1,030,700	3,205
Mauritius	2,040	1,294
Mayotte	374	231
Morocco	446,550	31,622
Mozambique	799,380	22,061
Namibia	824,292	2,128
Niger	1,267,000	15,878
Nigeria	923,768	152,217
Reunion	2,517	NA
Rwanda	26,338	11,056
Sao Tome e Principe	964	177
Senegal	196,722	12,211
Seychelles	455	77
Sierra Leone	71,740	5,246
Somalia	637,657	10,112
South Africa	1,219,090	49,109
Sudan	2,505,813	41,980
Swaziland	17,364	1,354
Tanzania	947,300	41,893
Togo	56,785	6,200
Tunisia	163,610	10,589
Uganda	241,038	33,399

See footnotes at end of table.

TABLE 1—Continued  
AFRICA: AREA AND POPULATION IN 2009

Country	Area <sup>1</sup> (square kilometers)	Estimated population <sup>2</sup> (thousands)
Western Sahara	266,000	405
Zambia	752,618	12,620
Zimbabwe	390,757	12,463
Total	30,288,134	983,589
World	148,940,000	6,692,030

NA Not available.

<sup>1</sup>Source: The World Factbook 2009, U.S. Central Intelligence Agency.

<sup>2</sup>Source: The World Bank, 2009 World Development Indicators Database.

TABLE 2  
AFRICA: GROSS DOMESTIC PRODUCT<sup>1,2</sup>

Country	Gross domestic product based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value (billion dollars)	Per capita (dollars)	2007	2008	2009
	Algeria	240.700	6,885	3.0	3.0
Angola	107.0	6,181	20.3	13.2	0.6
Benin	13.5	1,440	4.6	5.0	2.9
Botswana	25.9	14,321	4.4	2.9	4.0
Burkina Faso	18.7	1,303	3.6	5.0	2.9
Burundi	3.2	400	3.6	4.5	3.3
Cameroon	42.7	2,143	3.3	2.9	2.0
Cape Verde	1.7	3,070	7.8	5.9	3.9
Central African Republic	3.3	743	3.7	2.2	2.0
Chad	1,610.0	16,054	0.2	-0.2	0.7
Comoros	0.8	1,166	0.5	1.0	1.4
Congo (Brazzaville)	15.5	4,136	-1.6	5.6	7.5
Congo (Kinshasha)	21.4	330	6.3	6.2	3.6
Côte d'Ivoire	35.6	1,672	1.6	2.3	3.6
Djibouti	1.9	2,396	5.1	5.8	4.8
Egypt	468.9	6,114	7.1	7.2	4.7
Equatorial Guinea	23.7	18,572	21.4	11.3	0.5
Eritrea	3.7	679	1.3	1.0	3.6
Ethiopia	78.9	898	11.5	11.6	9.9
Gabon	21.1	14,297	5.6	2.3	1.0
Gambia, The	3.2	1,911	6.3	6.1	4.8
Ghana	35.9	1,558	5.7	7.3	4.7
Guinea	10.5	1,014	1.8	4.9	0.6
Guinea-Bissau	1.7	521	2.7	3.3	2.8
Kenya	61.9	1,728	7.1	1.7	3.6
Lesotho	3.2	650	5.1	3.5	1.1
Liberia	1.6	385	9.4	7.1	4.4
Libya	86.1	13,599	7.5	3.4	2.1
Madagascar	19.6	945	6.2	7.1	4.5
Malawi	12.1	867	8.6	9.7	7.0
Mali	15.9	1,164	4.3	5.1	4.4
Mauritania	6.3	2,035	1.0	2.2	1.1
Mauritius	16.3	12,737	4.2	6.6	2.8
Mayotte	1.0 <sup>3,4</sup>	4,900 <sup>3,4</sup>	NA	NA	NA
Morocco	145.4	4,587	2.7	5.6	4.9
Mozambique	19.7	932	7.0	6.8	5.4

See footnotes at end of table.

TABLE 2—Continued  
AFRICA: GROSS DOMESTIC PRODUCT<sup>1,2</sup>

Country	Gross domestic product based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value (billion dollars)	Per capita (dollars)	2007	2008	2009
	Namibia	13.9	6,653	5.5	2.9
Niger	10.1	712	3.3	9.5	0.9
Nigeria	345.4	2,274	7.0	6.0	2.9
Reunion	NA	NA	NA	NA	N/A
Rwanda	11.3	1,155	7.9	11.2	4.5
Sao Tome e Principe	0.3	1,812	6.0	5.8	4.1
Senegal	22.7	1,811	4.7	2.5	1.5
Seychelles	2.0	23,744	7.3	-1.9	-6.6
Sierra Leone	4.5	782	6.4	5.5	3.5
Somalia	5.6 <sup>3</sup>	600 <sup>3</sup>	2.6	2.6	N/A
South Africa	504.5	10,229	5.1	3.1	1.8
Sudan	92.9	2,378	10.2	6.8	4.9
Swaziland	5.7	5,743	3.5	2.4	0.2
Tanzania	57.6	1,421	7.1	7.4	5.5
Togo	5.6	834	1.9	1.1	2.2
Tunisia	95.5	9,154	6.3	4.6	3.1
Uganda	39.7	1,210	8.4	9.0	6.9
Western Sahara	0.9 <sup>3,5</sup>	2,500 <sup>3,5</sup>	NA	NA	NA
Zambia	18.4	1,539	6.3	5.8	6.1
Zimbabwe	2.2 <sup>5</sup>	189 <sup>5</sup>	-6.9	-14.1	3.7
Total	2,461.3	XX	XX	XX	XX
World total	69,489,850	XX	5.2	3.0	1.1

NA Not available. XX Not applicable.

<sup>1</sup>Sources: International Monetary Fund, World Economic Outlook Database, October 2009.

<sup>2</sup>Gross domestic product listed may differ from that reported in individual country chapters owing to differences in source or date of reporting.

<sup>3</sup>Sources: Organisation for Economic Operation and Development, The World Factbook 2009, U.S. Central Intelligence Agency.

<sup>4</sup>2005 estimate.

<sup>5</sup>2007 estimate.

TABLE 3  
SELECTED SIGNIFICANT AFRICAN EXPLORATION SITES IN 2009

Country	Type <sup>1</sup>	Site	Commodity <sup>2</sup>		Company	Resource <sup>2,3</sup>		Exploration <sup>4</sup>
			Zn, Pb	Cu, Ag		2.5 Mt Zn, 650,000 t Pb (D)	1.3 Mt Cu, 52 Moz Ag (IF)	
Algeria	F	Oued Amizour			Terramin Australia Ltd.			Extensive drilling.
Botswana	E	Ghanzi			Hana Mining Ltd.			Do.
Burkina Faso	E	Kiaka			Volta Resources Inc.			Do.
Do.	P	Mana			SEMAFO Inc.			Do.
Congo (Kinshasa)	F	Twangiza			Banro Corp.			Extensive work program.
Côte d'Ivoire	E	Hire			Lihir Gold Ltd.			Do.
Do.	F	Tengrela			Perscus Mining Ltd.			Do.
Egypt	P	Sukari			Centramin Egypt Ltd.			Extensive drilling.
Ghana	P	Damang			Goldfields Ltd.			Do.
Do.	E	Wa-Lawra			Azumah Resources Ltd.			Do.
Mali	E	Falea			Rockgate Capital Corp.			Do.
Do.	P	Sadiola Hill			Anglogold Ashanti Ltd.			Do.
Mauritania	P	Tasiast			Red Back Mining Inc.			Do.
Namibia	E	Husab/Rossing South			Extract Resources Ltd.			Do.
Do.	F	Valencia			Forsys Metals Corp.			Do.
Nigeria	E	Segilola			CGA Mining Ltd.			Do.
Do.	E	Husab/Rossing South			Extract Resources Ltd.			Do.
South Africa	E	Henkries			Niger Uranium Ltd.			Do.
Do.	E	Kalplats			Platinum Australia Ltd.			Do.
Do.	P	South Deep			Goldfields Ltd.			Do.
Do.	E	Tschudi			Weatherly International plc.			Do.
Tanzania	E	Mkuju River			Mantra Resources Ltd.			Do.
Do.	E	Nyota			Mantra Resources Ltd.			Do.

Do. Ditto.

<sup>1</sup>D—Approved for development; E—Active exploration; F—Feasibility work ongoing/completed; P—Exploration related to existing producing operation.

<sup>2</sup>Abbreviations used in this table for commodities include the following: Ag—silver; Au—gold; Cu—copper; Pb—lead; Pd—palladium; Pt—platinum; U—uranium; U<sub>3</sub>O<sub>8</sub>—uranium oxide; Zn—zinc.

Abbreviations used in this table for units of measure include the following: Moz—million troy ounces; Mt—million metric tons; oz—troy ounces; t—metric tons.

<sup>3</sup>Based on 2009 data reported from various sources; D—measured + indicated; ID—indicated; IF—inferred; R—proven + probable; T—total resource.

Resource data not verified by U.S. Geological Survey.

<sup>4</sup>Sites where extensive (greater than 10,000 meters) drilling or significant (more than US\$5 million) expenditure have been reported.

TABLE 4  
AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2009<sup>1</sup>  
(Thousand metric tons unless otherwise specified)

Country	Metals											
	Aluminum		Cobalt,		Copper,		Gold,		Iron and steel		Lead,	Manganese
	Bauxite	Metal <sup>2</sup>	mine output, gross weight	mine output, (metric tons)	mine output, Cu content	mine output, (kilograms)	Iron ore, gross weight	Steel, crude	mine output, Pb content (metric tons)	ore, mine output, Mn content		
Algeria	--	--	--	--	--	998	458	--	--	--	--	
Angola	--	--	--	--	--	--	--	--	--	--	--	
Benin	--	--	--	--	--	20	--	--	--	--	--	
Botswana	--	--	--	(3)	28	1,530 <sup>e</sup>	--	--	--	--	--	
Burkina Faso	--	--	--	--	--	13,181 <sup>4</sup>	--	--	--	--	--	
Burundi	--	--	--	--	--	750 <sup>e</sup>	--	--	--	--	--	
Cameroon <sup>e</sup>	--	90	--	--	--	1,800	--	--	--	--	--	
Cape Verde <sup>e</sup>	--	--	--	--	--	--	--	--	--	--	--	
Central African Republic	--	--	--	--	--	61	--	--	--	--	--	
Chad	--	--	--	--	--	100 <sup>e</sup>	--	--	--	--	--	
Congo (Brazzaville)	--	--	--	--	--	100 <sup>e</sup>	--	--	--	--	--	
Congo (Kinshasa)	--	--	--	29,000 <sup>e</sup>	295 <sup>e</sup>	3,500 <sup>e</sup>	120	--	--	--	--	
Côte d'Ivoire	--	--	--	--	--	6,947	--	--	--	--	76	
Egypt	--	400 <sup>e</sup>	--	--	--	60	1,780	4,777	--	--	52	
Equatorial Guinea	--	--	--	--	--	200 <sup>e</sup>	--	--	--	--	--	
Eritrea	--	--	--	--	--	50 <sup>e</sup>	--	--	--	--	--	
Ethiopia	--	--	--	--	--	4,872	--	110 <sup>e</sup>	--	--	--	
Gabon	--	--	--	--	--	300 <sup>e</sup>	--	--	--	--	881	
Ghana	440	--	--	--	--	79,883	--	--	--	--	350 <sup>e</sup>	
Guinea	13,600	--	--	--	--	18,091 <sup>5</sup>	--	--	--	--	--	
Kenya	--	6 <sup>e</sup>	--	--	--	1,055	(3) <sup>e</sup>	--	--	--	--	
Lesotho	--	--	--	--	--	--	--	--	--	--	--	
Liberia	--	--	--	--	--	524	--	--	--	--	--	
Libya	--	--	--	--	--	--	--	914	--	--	--	
Madagascar	--	--	60	--	--	70 <sup>e</sup>	--	--	--	--	--	
Malawi	--	--	--	--	--	--	--	--	--	--	--	
Mali	--	--	--	--	--	42,364	--	--	--	--	--	
Mauritania	--	--	--	--	37	8,580	10,275	5,000	--	--	--	
Mauritius	--	--	--	--	--	--	--	--	--	--	--	
Morocco and Western Sahara	--	--	--	1,200 <sup>e</sup>	5 <sup>e</sup>	600 <sup>e</sup>	10 <sup>e</sup>	479	27,000	--	79 <sup>e</sup>	
Mozambique	4	545	--	--	--	511	--	--	--	--	--	

See footnotes at end of table.



TABLE 4—Continued  
 AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2009<sup>1</sup>  
 (Thousand metric tons unless otherwise specified)

Country	Metals—Continued															
	Aluminum		Chromite,		Cobalt,		Copper,		Gold,		Iron and steel		Lead,		Manganese	
	Bauxite	Metal <sup>2</sup>	mine output, gross weight	mine output, gross weight	mine output, metric tons	mine output, metric tons	mine output, metric tons	mine output, metric tons	mine output, kilograms	mine output, gross weight	Iron ore, gross weight	Steel, crude	mine output, Pb content (metric tons)	mine output, Mn content	mine output, Mn content	mine output, Mn content
Namibia	--	--	--	--	--	--	--	--	2,022	--	--	20,000	10 <sup>e</sup>	--	--	--
Niger	--	--	--	--	--	--	--	--	1,852	--	--	--	--	--	--	--
Nigeria	--	13	--	--	--	--	--	--	100	99	450	NA	--	--	--	--
Reunion	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rwanda	--	--	--	--	--	--	--	--	20 <sup>e</sup>	--	--	--	--	--	--	--
Senegal	--	--	--	--	--	--	--	--	5,354	--	--	--	--	--	--	--
Sierra Leone	757	--	--	--	--	--	--	--	157	--	--	--	--	--	--	--
South Africa	--	809	6,865	400 <sup>e</sup>	105 <sup>e</sup>	197,628	55,313	7,484	1,922	--	--	49,149	1,900	--	--	--
Sudan	--	--	14	--	--	--	--	--	--	--	--	--	(3)	--	--	--
Swaziland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tanzania	123	--	--	--	2	39,112	--	--	12,955	--	--	--	--	--	--	--
Togo	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tunisia	--	--	--	--	--	--	--	--	--	151	155	--	--	--	--	--
Uganda <sup>e</sup>	--	--	--	--	--	25	(3)	7	25	--	--	--	--	--	--	--
Zambia <sup>e</sup>	--	--	--	--	2,300	697	--	--	3,100	--	--	--	1	--	--	--
Zimbabwe	--	--	194	74 <sup>e</sup>	4	4,965	--	20 <sup>e</sup>	4,965	--	--	--	--	--	--	--
Total	14,900	1,860	7,130	33,000	1,170	455,000	68,900	20,000	455,000	68,900	20,000	96,100	3,350	--	--	--
Share of world total	8%	4%	38%	51%	8%	22%	3%	2%	22%	3%	2%	2%	28%	--	--	--
United States	NA	1,730	--	--	1,180	223,000	26,700	59,400	223,000	26,700	59,400	406,000	--	--	--	--
Share of world total	NA	4%	--	--	8%	11%	1%	5%	11%	1%	5%	11%	--	--	--	--
World total	197,000	44,500	18,800	64,400	15,300	2,060,000	2,320,000	1,230,000	2,060,000	2,320,000	1,230,000	3,860,000	12,100	--	--	--

See footnotes at end of table.

TABLE 4—Continued  
AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2009<sup>1</sup>  
(Thousand metric tons unless otherwise specified)

Country	Metals—		Industrial minerals				Mineral fuels		
	Continued	Zinc,	Cement,	Diamond,	Phosphate	Coal,	Petroleum,	Uranium,	
	mine output,	mine output,	hydraulic	natural	rock,	anthracite and	crude	U <sub>3</sub> O <sub>8</sub> content	
	Zn content	Zn content	(metric tons)	(thousand	gross weight	bituminous	(thousand 42-	(metric tons)	
	(metric tons)	(metric tons)	(metric tons)	carats) <sup>6</sup>	(metric tons)	gallon barrels)	(thousand 42-	(metric tons)	
Algeria	--	--	18,732	--	1,017	--	661,000 <sup>e</sup>	--	
Angola <sup>e</sup>	--	--	1,800	7,000 <sup>7,8</sup>	--	--	694,000	--	
Benin	--	--	1,500 <sup>e</sup>	--	--	--	--	--	
Botswana	--	--	--	17,700 <sup>9</sup>	--	910 <sup>e</sup>	--	--	
Burkina Faso <sup>e</sup>	--	--	30	--	2	--	--	--	
Burundi	--	--	--	--	--	--	--	--	
Cameroon	--	--	1,000	12	--	--	30,000	--	
Cape Verde	--	--	160	--	--	--	--	--	
Central African Republic	--	--	--	312	--	--	--	--	
Chad	--	--	--	--	--	--	43,600 <sup>e</sup>	--	
Congo (Brazzaville)	--	--	110 <sup>e</sup>	68 <sup>e</sup>	--	--	99,348	--	
Congo (Kinshasa)	17,000 <sup>e</sup>	--	444	18,275	--	120 <sup>e</sup>	9,382	--	
Côte d'Ivoire	--	--	283	--	--	--	21,500 <sup>e</sup>	--	
Egypt	--	--	46,500	--	6,227	300 <sup>e</sup>	270,830	--	
Equatorial Guinea	--	--	--	--	--	--	113,000 <sup>e</sup>	--	
Eritrea	--	--	45 <sup>e</sup>	--	--	--	--	--	
Ethiopia	--	--	2,300 <sup>e</sup>	--	--	--	--	--	
Gabon	--	--	240 <sup>e</sup>	1 <sup>e</sup>	--	--	83,585	--	
Ghana	--	--	1,800 <sup>e</sup>	376	--	--	--	--	
Guinea	--	--	400 <sup>e</sup>	697	--	--	--	--	
Kenya	--	--	3,320	--	--	--	--	--	
Lesotho	--	--	--	450	--	--	--	--	
Liberia	--	--	71	37	--	--	--	--	
Libya	--	--	6,500 <sup>e</sup>	--	--	--	567,174	--	
Madagascar <sup>e</sup>	--	--	460	--	--	--	2	--	
Malawi	--	--	240 <sup>e</sup>	--	5,000 <sup>e</sup>	61 <sup>e</sup>	--	122	
Mali	--	--	--	--	--	--	--	--	
Mauritania	--	--	340	--	--	--	4,104	--	
Mauritius	--	--	620	--	--	--	--	--	
Morocco and Western Sahara <sup>e</sup>	81,000	--	14,000	--	25,000	--	1,575	--	
Mozambique	--	--	777	--	--	26	--	--	

See footnotes at end of table.

TABLE 4—Continued  
AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2009<sup>1</sup>  
(Thousand metric tons unless otherwise specified)

Country	Metals—			Industrial minerals			Mineral fuels		
	Continued Zinc, mine output, Zn content (metric tons)	Cement, hydraulic	Diamond, natural (thousand carats) <sup>6</sup>	Graphite (metric tons)	Phosphate rock, gross weight	Coal, anthracite and bituminous	Petroleum, crude (thousand 42- gallon barrels)	Uranium, U <sub>3</sub> O <sub>8</sub> content (metric tons)	
Namibia	47,000 <sup>e</sup>	--	1,192	--	--	--	--	5,375	
Niger	--	40 <sup>e</sup>	--	--	--	225	--	3,823	
Nigeria	NA	5,000 <sup>e</sup>	--	--	--	450 <sup>e</sup>	780,348	--	
Reunion	--	400 <sup>e</sup>	--	--	--	--	--	--	
Rwanda	--	100 <sup>e</sup>	--	--	--	--	--	--	
Senegal	--	3,327	--	--	948	--	249	--	
Sierra Leone	--	236	401	--	--	--	--	--	
South Africa	28,159	11,784	6,119	--	2,237	250,582	1,070	629	
Sudan	--	1,000 <sup>e</sup>	--	--	--	--	173,453	--	
Swaziland	--	--	--	--	--	170	--	--	
Tanzania	--	1,941	182 <sup>10</sup>	--	1 <sup>e</sup>	--	--	--	
Togo	--	NA <sup>e</sup>	(3)	--	726	--	--	--	
Tunisia	--	7,511	--	--	7,298	--	31,390	--	
Uganda	--	620 <sup>e</sup>	--	--	--	--	--	--	
Zambia <sup>e</sup>	--	880	--	--	--	200	--	--	
Zimbabwe	--	700 <sup>e</sup>	964	2,463	20 <sup>e</sup>	1,750 <sup>e</sup>	--	--	
Total	173,000	135,000	53,800	7,460	43,500	255,000	3,590,000	9,950	
Share of world total	2%	5%	49%	1%	27%	4%	12%	18%	
United States	736,000	64,900	--	--	26,400	907,000	6,530,000	1,880	
Share of world total	7%	2%	--	--	17%	16%	22%	3%	
World total	11,300,000	3,000,000	109,000	1,080,000	159,000	5,760,000	29,600,000	56,600	

<sup>e</sup>Estimated; estimated data, U.S. data, and world totals are rounded to no more than three significant digits. <sup>p</sup>Preliminary. NA Not available. -- Zero or zero percent.

<sup>1</sup>Totals may not add owing to independent rounding. Percentages are calculated on unrounded data. Table includes data available as of February 28, 2011.

<sup>2</sup>Primary and secondary production.

<sup>3</sup>Less than 1/2 unit.

<sup>4</sup>Includes artisanal mining, which was estimated to be 1,600 kilograms.

<sup>5</sup>Does not include artisanal mining production, which has historically ranged between 1,500 and 5,000 kilograms per year.

<sup>6</sup>Gemstones and industrial diamond.

<sup>7</sup>Does not include smuggled production.

<sup>8</sup>Production was approximately 90% gem-quality and 10% industrial-quality stones.

<sup>9</sup>Assumed to contain about 70% gem-quality and near gem-quality stones.

<sup>10</sup>Diamond figures are estimated to represent 85% gem-quality or near gem-quality and 15% industrial-quality stones. Does not include smuggled artisanal production.