



# 2014 Minerals Yearbook

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## BURMA

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# THE MINERAL INDUSTRY OF BURMA

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In 2014, Burma (also known as Myanmar) produced a variety of mineral commodities, including antimony, cement, coal, copper, lead, manganese, natural gas, nickel, petroleum, petroleum products, precious and semiprecious stones, tin, tungsten, and zinc (table 1).

Since 2012, Burma has undergone many political changes, including reforms to law and government policies, that directly affected the country's economy, social wellbeing, and stability. Many changes were a result of the Government starting to implement more democratic reforms following more than 50 years of military rule and the subsequent lifting of sanctions imposed by Western countries. The changes were stimulating interest in foreign direct investment (FDI) in the country, especially in the mining and industry sector. In fiscal year 2015 (which ran from April 1, 2014, to March 30, 2015), FDI in Burma amounted to \$8 billion invested in a total of 211 projects compared with \$4.1 billion invested in 123 projects in fiscal year 2014 and \$1.4 billion invested in 94 projects in fiscal year 2013. Investments in fiscal year 2015 were made by partners from Singapore (43 projects), China (34), Hong Kong (27), and the United Kingdom (12), among others. Burma's leading investor was Singapore (which invested \$4.297 billion) followed by the United Kingdom (\$721.9 million), Hong Kong (\$624.8 million), and China (\$516.9 million) (Central Statistical Organization, 2015).

The legal and regulatory framework related to FDI includes the Foreign Investment Law of 2012, the Foreign Investment Rules of 2013, and Notification No. 49/2014 (New Notification) of August 2014 issued by the Myanmar Investment Commission. The New Notification clarifies the type of activities in which foreign investments are prohibited or restricted. According to Burma's Ministry of Mines, the set of laws and notifications related to FDI were created to attract interest from investors and included such provisions as exemption from commercial tax on profits that are planned to be reinvested in the country within 1 year, 5 years of tax holiday instead of 3 years, income tax relief of up to 50% on export profits, granting foreign firms the ability to fully own ventures in the country, and the promise from the Government not to nationalize the business while the contract is in place. The Ministry of Mines also recommended the amendment of the country's Mining Law in the near future to be in accordance with international standards, reform of the banking system, and an increase in the country's technical knowledge as a means to increase national productivity and self-sufficiency (Aung, 2014; Finch, undated).

## Minerals in the National Economy

According to the Asian Development Bank, the mining sector (at current prices) contributed 7.3% to Burma's gross domestic product (GDP) in fiscal year 2015 compared with about 6% in fiscal year 2013. The construction sector contributed 5.8% to the

GDP compared with 5.3% in 2013 (Asian Development Bank, 2015, p. 1).

Burma's total trade value for fiscal year 2015 was \$29.15 billion, of which exports were valued at \$12.52 billion and imports, \$16.63 billion. In 2014, the value of natural gas exports was \$5.2 billion; jade exports, about \$1 billion; and base metals and ores exports, \$440.4 million. The major mineral products imported by Burma were base metals and manufactured goods, which were valued at \$1.931 billion; cement, \$301.4 million; and coal and coke, \$110.1 million. Burma's main trading partner in 2014 was China. Burma exported 37.3% of its total exports to China and imported 30.2% of its total imports from China. Other trading partners included Japan, Singapore, and Thailand (Central Statistical Organization, 2015).

## Production

During 2014, Burma's mineral industry reported production increases for most commodities compared with these of 2013. For the metals mining sector, the production of nickel (133%) and ferronickel (more than 1,000%) increased substantially, mainly as the Tagaung Taung nickel project began reaching its designed capacity. Other increases in production included tin ores and concentrates (289%), lead (54%), copper (33%), and zinc (27%); however, decreases were reported for antimony (54%) and manganese (39%). In the industrial minerals sector, increases were reported for dolomite (450%), gypsum (74%), and cement (18%). A decrease was reported for barite (26%). In the mineral fuels sector, the only significant production increase was that of natural gas (36%), and a small decrease was reported for crude petroleum (4%) (table 1).

## Structure of the Mineral Industry

The mineral sector in Burma included mining and mineral processing industries, which were mainly Government owned, although increased FDI had increased foreign investors' participation in the country's mining sector. According to the Ministry of Mines, in 2014, the country granted three kinds of mining permits—for exploration (485), large-scale mining (132), and small-scale mining (1,089) (Aung, 2014).

Table 2 lists Burma's major mineral industry facilities.

## Commodity Review

### Metals

**Gold.**—In October 2014, Centurion Minerals Ltd. of Canada announced the completion of an exploration program (phase 1) in the company's concession called the Slate Belt. The phase 1 program resulted in the identification of six preliminary exploration targets, which were to be further studied in the next phase. The initial exploration phase, which was initiated in

March, included the assessment of historical gold occurrences, delimiting the property boundaries, geologically mapping the area, and performing geochemical analyses. The property is located 125 kilometers (km) south of Mandalay City and covers an area of 692 square kilometers (km<sup>2</sup>). Centurion (80%) held an exploration permit valid for 5 years with local partner Crown Minerals Co. (20%) (Centurion Minerals Ltd., 2014a, b).

**Iron and Steel.**—In June 2014, Millcon Steel of Thailand (51%) signed a joint-venture agreement with Thiha Group of Burma (49%) to engage in the trade of steel and construction materials in Burma. The joint company was registered in Burma as Millcon Thiha Co. In July, Millcon Steel announced a joint-venture agreement with two other (undisclosed) companies for the construction of a steelworks facility to produce and distribute structural steel. No further details were announced (Loo, 2014; Nation, The, 2014).

**Nickel.**—In 2014, the production of nickel and ferronickel increased substantially by 133% and more than 1,000%, respectively, as a result of the commissioning of the first ferronickel furnace in the Tagaung Taung nickel project. The 2014 production represented the first full year of production of the ferronickel furnace, which officially started producing in March 2013. The project is located in Thabeikying, Mandalay Region, in central Burma. The plant, which had a design capacity of 25,000 metric tons per year (t/yr) of nickel metal and an estimated capacity of 85,000 t/yr of ferronickel, was operated by China Nonferrous Metal Mining Co. Ltd. under a production-sharing contract with state-owned Mining Enterprise No. 3 of Burma. China ENFI Engineering Corp. was in charge of the design of the plant (Yu, 2012; China Metallurgical Group Corp., 2013).

As of December 2014, the Mwetaung ferronickel project, which was proposed by North Mining Investment Co. Ltd., was still in the feasibility stage. According to the Ministry of Mines, a preliminary survey of the area that covered Mwe Mountain and Phar Mountain was completed in December 2012. The company awaited the feasibility study results on the potential of the property to produce ferronickel concentrates from low-grade laterite ores. The project is located in Teetain Township, Sagaing Region, in Chin State (Mann, 2014; Ministry of Mines, 2014a, b).

**Tin.**—In 2014, Burma's production of tin ores and concentrates increased by 289%. The increase was fueled mainly by increased demand from the Chinese electronics industry after Indonesia implemented tighter restrictions on tin exports. Indonesia, which had been China's main partner for tin supply, banned the exports of tin ingots in July 2013. After the ban was put in effect, China turned to Burma for tin imports, which included ores and concentrates. During 2014, Burma was the top supplier of tin ore to China (Yam, 2013; Scrap Register, 2014).

### **Industrial Minerals**

**Cement.**—In 2014, cement production in Burma increased by 18% compared with that of 2013. During 2014, many cement projects and expansions were proposed, as domestic demand had increased owing to infrastructure improvements.

In March, Italcementi Group of Italy expressed interest in entering Burma's cement market. The company sought local

partners for negotiations and was considering the country's foreign investment laws and regulations before finalizing a decision. In July, Siam Cement Group of Thailand announced plans to invest \$400 million in the construction of a cement plant in Burma with a capacity of 1.8 million metric tons per year. The company planned to manufacture cement initially and offer other construction products, such as concrete and blocks, in the near future. The plant was expected to be commissioned by 2016 (Global Cement, 2014b–c).

Since mid-2014, Semen Indonesia (Persero) Tbk PT (SMGR) had been in negotiations with a local (undisclosed) cement producer for a joint-venture partnership; however, in September, the company decided to postpone its plans, primarily because of disagreements on ownership terms. SMGR was interested in acquiring a cement firm in Burma through a joint venture and had proposed a 20% stake as well as the right to function as the operator of the project and the distributor of the products. SMGR had planned to invest \$300 million in the venture (Lubis, 2014).

In November, Myint Investment Group Co. Ltd. of Burma entered into a joint-venture agreement with Anhui Conch Cement of China to form Myanmar Conch Cement Co. Ltd. The new company was created to upgrade the No. 33 Kyaukse cement plant located in Kyaukse, Mandalay Region. The upgrade would increase the plant's capacity to 5,000 metric tons per day (t/d) of clinker from 400 t/d; however, no expected date of completion was released (CemNet, 2014; Global Cement, 2014a).

### **Mineral Fuels**

**Oil and Gas.**—In 2014, exports of natural gas accounted for 41% of total exports, by value. The production of natural gas increased by 35.5% from that of 2013; the increase could be attributable in part to the start of production at the Shwe natural gas project and the Zawtika natural gas project. The Shwe project consisted of the Shwe, the Shwe Phyu, and the Mya offshore gasfields, which are located in Block A1 and Block A3 off the coast of Rakhine State in the Bay of Bengal. Commercial gas production in the Shwe project started in August 2013 from the Mya field, followed by the start in production of the Shwe field in January 2014. The combined natural gas reserve of the three gasfields was estimated to be 128 billion cubic meters (table 1; Nyein, 2015; Offshore Technology, undated a).

The Zawtika natural gas project included the Gawthaka, the Kakonna, and the Zawtika offshore gasfields, which are located in Block M9 and Block M11 in the Gulf of Martaban. The project, which was developed at a cost of \$2 billion, started gas production in March 2014 and, by August, began exporting to Thailand. The combined natural gas reserve for the Zawtika project was estimated to be 56 billion cubic meters (Offshore Technology, undated b).

Between 2013 and 2014, the Government awarded 16 onshore and 20 offshore oil and gas exploration blocks in the Bay of Bengal, the Gulf of Martaban, and the Rakhine Basin. The concessions were expected to start exploration activities after 2015. In 2014, the major producing offshore oil and gas fields

were the Shwe, the Yadana, the Yetagun, and the Zawtika fields (Nyein, 2015).

In March, partners ConocoPhillips Co. of the United States and Statoil ASA of Norway were awarded exploration Block AD-10 located in the Bay of Bengal. The block covered an area of 9,000 km<sup>2</sup> and was located about 200 km off the coast. Each partner owned a 50% equity share in the project, and Statoil was the operator. During the 2.5-year exploration period, Statoil planned to acquire and analyze two-dimensional seismic imagery and to conduct an environmental impact assessment and a social impact study (MBendi, 2014b).

Also in March, offshore exploration Block A5 was awarded to Unocal Myanmar Offshore Co. Ltd. (a subsidiary of Chevron Corp. of the United States). Block A5 is located in the Rakhine Basin, about 200 km northwest of Yangon, and covered an area of 10,600 km<sup>2</sup>. Unocal is the operator of the block and held a 99% interest in the project; the remaining 1% interest was held by Royal Marine Engineering and Trading Co. Ltd. of Burma (MBendi, 2014a).

Also in March, Roc Oil Co. Ltd. (ROC) of Australia announced that the Ministry of Energy had awarded the company a production-sharing contract for Block M07. The block is located in the Moattama Basin at the mouth of the Irrawaddy Delta and covered an area of approximately 13,000 km<sup>2</sup>. ROC operated the project and held a 59.375% interest in a joint venture. During an 18-month period, the company was to conduct an environmental impact assessment and other studies (MBendi, 2014b).

## Outlook

Although the international community has suspended most of the sanctions against Burma, the country's transition to an open market economy will take time as reforms need to be formulated, approved, and implemented at many levels of Burma's Government. Challenges and risks include the maintenance of economic and political stability and the reform of the country's legal framework.

During 2013 and 2014, the Government worked toward revamping the foreign investment laws and mining regulations to increase foreign interests in the mining sector. The Government has also prioritized projects to improve infrastructure and reliable energy sources to support the rapid changes in the mining industry. The mining industry faces challenges, such as the lack of understanding of the country's geology and its mineral resources and the deficiency in skilled labor, technical knowledge, and the modern technology needed to drive the mining industry forward.

The exploration for and production of metals and industrial minerals are expected to increase in the near future as new developments and expansion projects progress and mines and plants start being commissioned in the next few years. In particular, cement production would increase as new projects start to be commissioned. Increases in cement consumption will likely be directly influenced by the Government's infrastructure plans, which include the construction and improvement of highways and housing projects. Also, the nickel sector is expected to increase production in the near future as the Tagaung Taung nickel project reaches its designed capacity.

The development of other mining projects will be subject to the continuing demand for mineral commodities from neighboring countries and world market prices.

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TABLE 1  
BURMA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2010	2011 <sup>c</sup>	2012	2013	2014
<b>METALS</b>					
Antimony, Sb content <sup>e,3</sup>	4,700 <sup>r</sup>	5,600 <sup>r</sup>	5,900 <sup>r</sup>	7,200 <sup>r</sup>	3,300
<b>Copper:</b>					
Mine output, Cu content	9,000	9,000	19,000 <sup>e</sup>	25,000	33,200
Metal, refined	9,000	9,000	19,000 <sup>e</sup>	25,000	33,200
Gold, refined kilograms	NA	NA	787 <sup>4</sup>	893 <sup>4</sup>	900 <sup>e</sup>
<b>Lead:</b>					
Mine output, Pb content <sup>e,5</sup>	7,000	8,700 <sup>6</sup>	9,800 <sup>6</sup>	11,700	18,000
Metal, refined	200 <sup>r</sup>	200 <sup>r</sup>	200	200	200
<b>Manganese:</b>					
Gross weight	749,600	586,000	286,300	393,800	241,800
Mn content	299,900	234,400 <sup>6</sup>	114,500 <sup>r</sup>	157,000 <sup>r</sup>	96,700
<b>Nickel:</b>					
Mine output, Ni content <sup>e</sup>	--	800	5,000	9,000 <sup>r</sup>	21,000
<b>Ferronickel<sup>e,7</sup></b>					
Ni content	NA	NA	--	1,200 <sup>r,p</sup>	15,300 <sup>p</sup>
Gross weight	NA	NA	--	4,800 <sup>r,p</sup>	59,000
<b>Tin, mine output:<sup>8,9</sup></b>					
Ores and concentrates <sup>e</sup>	800 <sup>r</sup>	2,200 <sup>r</sup>	2,100 <sup>r</sup>	9,000 <sup>r</sup>	35,000
Metal, refined <sup>e</sup>	30	30	30	30	30
<b>Tungsten, mine output, W content:<sup>6</sup></b>					
Tungsten concentrate	2	--	1 <sup>r</sup>	--	3
Tin-tungsten concentrate <sup>9</sup>	161	140	130	140 <sup>r</sup>	140
Total	163	140	131 <sup>r</sup>	140 <sup>r</sup>	143
Zinc, mine output, Zn content <sup>e,5</sup>	8,600	9,300 <sup>6</sup>	10,000 <sup>r</sup>	4,800 <sup>r</sup>	6,100

See footnotes at end of table.

TABLE 1—Continued  
BURMA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2010	2011 <sup>c</sup>	2012	2013	2014
<b>INDUSTRIAL MINERALS</b>					
Barite	8,975	30,000	21,539 <sup>3</sup>	31,295 <sup>3</sup>	23,060
Clay, bentonite	NA	NA	--	1,552	NA
Cement, hydraulic	534,034	538,000	922,074 <sup>r,4</sup>	1,120,783 <sup>r,4</sup>	1,317,163 <sup>4</sup>
Gypsum	81,051	50,000	38,579 <sup>r</sup>	60,510 <sup>4</sup>	104,994
<b>Precious and semiprecious stones:</b>					
Jade kilograms	38,990,035	45,000,000	19,080,442 <sup>4</sup>	15,061,927 <sup>r,4</sup>	16,684,386
Ruby do.	1,612,070	870,000	852,033 <sup>4</sup>	443,510 <sup>r,4</sup>	496,947
Sapphire do.	1,311,327	1,500,000	1,351,916 <sup>4</sup>	1,142,291 <sup>r,4</sup>	1,214,687
Spinel do.	618,730	620,000	514,052 <sup>4</sup>	466,138 <sup>r,4</sup>	525,594
<b>Salt:</b>					
Brine	97,136	100,000	NA	NA	NA
Rock, crude	NA	NA	207,261 <sup>4</sup>	169,109 <sup>r</sup>	187,616
<b>Stone:</b>					
Dolomite	3,119	2,000	170 <sup>4</sup>	400 <sup>4</sup>	2,200
Limestone, crushed and broken <sup>c</sup> thousand metric tons	3,200	3,200	5,500 <sup>r</sup>	6,700 <sup>r</sup>	7,900
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Coal, lignite	217,650	300,000	471,022 <sup>4</sup>	380,272 <sup>4</sup>	386,732
Gas, natural, marketed million cubic meters	12,425	12,500	13,225 <sup>r,4</sup>	13,657 <sup>r,4</sup>	18,503
<b>Petroleum:</b>					
Crude thousand 42-gallon barrels	6,806	6,400	6,197 <sup>4</sup>	6,115 <sup>r,4</sup>	5,851
Refinery products <sup>10</sup> do.	4,851	5,000	4,029 <sup>4</sup>	3,054 <sup>r,4</sup>	3,090

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>p</sup>Preliminary. <sup>r</sup>Revised. do. Ditto.

NA Not available. -- Zero.

<sup>1</sup>Table includes data available through November 20, 2015.

<sup>2</sup>In addition to the commodities listed, copper matte, construction aggregates, diamond, feldspar, iron and steel, lead (antimonial), nitrogen (ammonia), sand and gravel, silica sand, and silver were produced, but available information was inadequate to make reliable estimates of output.

<sup>3</sup>Data estimated from the United Nations Comtrade database for antimony ores and concentrates imported from Burma by China, India, Singapore, and Thailand.

<sup>4</sup>Data are for the fiscal year ending March 31 of the following year.

<sup>5</sup>Data are for the production by the state-owned mining enterprises under the Ministry of Mines.

<sup>6</sup>Reported figure.

<sup>7</sup>Data estimated from the United Nations Comtrade database for ferronickel imported from Burma by China and the Netherlands.

<sup>8</sup>Production of tin, mine output, Sn content production as reported by the Government, in metric tons, was 2010—374, 2011—350, 2012—576, 2013—443, and 2014—347.

<sup>9</sup>Data estimated from the United Nations Comtrade database for tin ores and concentrates imported from Burma by China, Malaysia, and Thailand.

<sup>10</sup>Includes diesel, distillate fuel oil, gasoline, jet fuel, kerosene, and residual fuel oil.

Sources: Ministry of Mines and Central Statistical Organization (Yangon), Selected Monthly Economic Indicators, January 2010, December 2010, September 2011, May 2014, March 2015.

TABLE 2  
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity <sup>e</sup>
Cement	AAA Cement International Co. Ltd.	Cement plant in Kyaukse, Mandalay Region	180,000.
Do.	Dragon Cement Co., Ltd.	Cement plant in Pinlaung, Shan State	180,000.
Do.	Mandalay Cement Industries Co. Ltd.	Cement plant in Kyaukse, Mandalay Region	135,000.
Do.	Max Cement (Subsidiary of Max Myanmar Holding Co. Ltd.)	Cement plant in Aung Nan Cho Village, Lewe, Naypyidaw Township, Mandalay Region	150,000.
Do.	Myanma Ceramic Industries	Cement plant in Kyangin, Ayeyarwady Region	363,000.
Do.	do.	Cement plant in Kyaukse, Mandalay Region	120,000.
Do.	do.	Cement plant in Thayet, Magway Region	170,000.
Do.	Myanmar Conch Cement Co. Ltd. (Myint Investment Group Co. Ltd. and Anhui Conch Cement)	No. 33 Kyaukse cement plant located in Kyaukse, Mandalay Region	NA.
Do.	Myanmar Economic Corp. Myaing Galay 1	Cement plant in Hpa An, Kayin State	240,000.
Do.	Myanmar Economic Corp. Myaing Galay 2	do.	1,200,000.
Do.	Naypyidaw Development Committee	Cement plant in Naypyidaw Township, Mandalay Region	150,000.
Do.	Tiger Head Cement (Myanmar)	Cement plant in Kyaukse, Mandalay Region	90,000.
Do.	Tun Thwin Mining Co. Ltd.	Kalay Cement Plant in Indinggyi Village, Kalay Township, Sagaing Region	NA.
Do.	Union of Myanmar Economic Holdings Ltd. Sin Min 1	Cement plant in Kyaukse, Mandalay Region	330,000.
Do.	Union of Myanmar Economic Holdings Ltd. Sin Min 2	do.	NA.
Do.	Yangon City Development Committee	Myodaw cement plant in Thazi Mandalay Region	150,000.
Coal	Tun Thwin Mining Co. Ltd. and Mining Enterprise No. 3 (ME-3)	Paluzawa coal mine located in Kalewa area in Sagaing Region	100,000.
Copper	No. 1 Mining Enterprise, 51%, and Myanmar Yang Tse Copper Ltd. (Wanbao Mining Ltd. and Union of Myanmar Economic Holding Ltd.), 49%	Monywa copper project, S&K Mine, and Monywa solvent extraction electrowinning plant in Monywa Region	40,000.
Fertilizer, urea	Myanma Petrochemical Enterprise (Government, 100%)	No. 1 fertilizer plant at Sale, 190 kilometers southwest of Mandalay Region	169,725.
Do.	do.	No. 2 fertilizer plant at Kyun Chaung, Magway Region	75,600.
Do.	do.	No. 3 fertilizer plant at Kyawzwa, Magway Region	219,000.
Do.	do.	No. 4 fertilizer plant at Myaungdaga	182,500.
Do.	do.	No. 5 fertilizer plant at Kangyidauk Township	182,500.

See footnotes at end of table.

TABLE 2—Continued  
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity <sup>c</sup>
Natural gas	million cubic meters	Total E&P Myanmar, 31.2%; Chevron Corp., 28.26%; PTT Exploration and Production Public Co. Ltd. (PTTEP), 25.5%; Myanma Oil and Gas Enterprise (MOGE), 15%	Yadana gasfield in Moattama, Gulf of Martaban	8,600.
Do.	do.	Petronas Carigali Myanmar Inc., 40.91%; Myanma Oil and Gas Enterprise (MOGE), 20.45%; PTT Exploration and Production Public Co. Ltd. (PTTEP), 19.32%; Nippon Oil Exploration (Myanmar) Ltd., 19.32%	Yetagun gasfield in Tanintharyi, Gulf of Martaban	4,600.
Do.	do.	Myanmar Petroleum Resources Ltd. and Myanma Oil and Gas Enterprise (MOGE)	Mann oilfield, south of Yangon, Yangon Region	40.
Do.	do.	Daewoo International, 51%; Oil and Natural Gas Corp. (ONGC) Videsh Ltd. of India, 17%; Myanma Oil and Gas Enterprise (MOGE), 15%; Gas Authority of India (GAIL) Ltd. of India, 8.5%; Korea Gas Corp. (KOGAS), 8.5%	Shwe gasfield off of Rakhine State coast	4,125.
Do.	do.	Petroleum Authority of Thailand Exploration and Production International (PTTEP International), 80%; Myanma Oil and Gas Enterprise (MOGE), 20%	Zawtika Natural Gas Project (Gawthaka, Kakonna, and Zawtika offshore gasfields) in the Gulf of Martaban	3,100.
Nickel		China Nonferrous Metal Mining (Group) Co. Ltd. of China and Taiyuan Iron & Steel (Group) Co. Ltd. of China	Tagaung Taung nickel ore project (mine and smelter) at Thabeikying, Mandalay Region	25,000 (nickel), 85,000 (ferronickel).
<b>Petroleum:</b>				
Crude	thousand 42-gallon barrels	Myanmar Petroleum Resources Ltd. and Myanma Oil and Gas Enterprise (MOGE)	Mann oilfield, south of Yangon, Yangon Region	880.
Refined	do.	Myanma Petrochemical Enterprise (Government, 100%)	No. 1 refinery at Thanlyin (near Yangon)	7,300.
Do.	do.	do.	No. 2 refinery at Chauk, Magway Region	2,190.
Do.	do.	do.	No. 3 refinery at Thanbayakan	9,100.
Steel		Myanmar Posco Steel Co. Ltd. (POSCO, 70%, and Government, 20%)	POSCO Steel plant at Mingalardon Township, Yangon Region	30,000.
Tin, ore and concentrate		No. 2 Mining Enterprise	NA	NA.
Tungsten, ore and concentrate		No. 2 Mining Enterprise	NA	NA.
Zinc		No. 1 Mining Enterprise and Win Myint Mo Industrial Co. Ltd.	Namtu-Bawdwin lead-zinc mine located in Namtu Township, Kyaukme District in Northern Shan State	NA.

<sup>c</sup>Estimated. Do., do. Ditto. NA Not available.