2014 Minerals Yearbook

YEMEN

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The Mineral Industry of Yemen

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The Republic of Yemen is a Middle Eastern country that forms the southwestern tip of the Arabian Peninsula and has 1,906 kilometers (km) of coastline along the Arabian Sea, the Gulf of Aden, and the Red Sea. In 2014, Yemen's economy was largely dependent on revenue from the export of hydrocarbons. Yemen had proved crude oil and natural gas reserves of 3.0 billion barrels (Gbbl) and 300 billion cubic meters, respectively. The country produced mineral commodities in modest quantities, including crude oil and liquefied natural gas (LNG) and smaller amounts of cement, refined petroleum products, salt, and sand and gravel. Metallic mineral resources in the country included cobalt, copper, gold, lead, nickel, niobium (columbium), platinum-group metals, rare-earth-elements, tantalum, and zinc. Industrial mineral and rock resources in the country included dolomite, gypsum, limestone, magnesite, pumice, and zeolites (Library of Congress, 2008, p. 1, 4; Pugachevsky, 2011; International Monetary Fund, 2014, p. 27; U.S. Energy Information Administration, 2014; BP p.l.c., 2015, p. 6, 20, 22; General Investment Authority, 2015; World Bank, The, 2015, p. 20; Yemen Geological Survey and Mineral Resources Board, 2015b–d).

Building and decorative stone are found in many locations in the country, including the Governorates of Abyan, Al Hudaydah, Marib, Sana, Shabwah, and Taizz. Yemen is estimated to have identified resources of 343 million cubic meters of tuff and ignimbrite rock; 142 million cubic meters of tertiary basalt volcanic rock; 5,300 million cubic meters of limestone rock; 2,700 million cubic meters of granite and gabbro rock, including Precambrian granite rock and tertiary granite rock; and 180 million cubic meters of marble rock (Al-Razhi, 2014, p. 463–464; Yemen Geological Survey and Mineral Resources Board, 2015a).

Minerals in the National Economy

Yemen's real gross domestic product (GDP) decreased by 0.2% in 2014 compared with that of 2013. Crude oil revenue decreased by about 37% in 2014 compared with that of 2013 owing to decreased exports (by volume) and lower global crude oil prices. In 2014, crude oil made up to 70% of the Government's revenue, 63% of the total value of exports, and 30% of GDP. Yemen's natural gas sector accounted for nearly 25% of the country's GDP in 2014. The rate of growth of hydrocarbon real GDP was estimated to have decreased by 8.3% in 2014 compared with that of 2013. The rate of growth of the nonhydrocarbon portion of real GDP was estimated to have increased by 3% in 2014 compared with that of 2013 (Prospect Group, The, 2014; Central Bank of Yemen, 2015, p. 41; Thomson Reuters, 2015; World Bank, The, 2015, p. 20).

Government Policies and Programs

Law No. 22 of 2010—Concerning Mines and Quarries governs the minerals exploration and production activities in Yemen. The law, which was approved by the Government in 2010 and the legislative body (House of Representatives) in 2011, regulates the artisanal, exploration, mining, and prospecting operations in the country. According to the law, the Government offers the following five types of licenses: Artisanal, exploration, mining, quarrying, and reconnaissance. Article 3 of the law states that the new law aims to encourage national and foreign capital investment in the exploration, extraction, mining, and reconnaissance activities in Yemen and that those activities should meet the country's economic and social development requirements. Article 7 of the law states that a licensed reconnaissance area should not exceed 10,000 square kilometers (km^2) and has to be specified by geographical coordinates. Article 12 of the law specifies that a reconnaissance license is valid for 1 year. This license can be extended once for an additional 1 year after reducing the licensed area by 50%. Article 17 of the law states that a licensed exploration area should not exceed 10,000 km^2 for metallic minerals and 5 km^2 for quarrying raw materials (Republic of Yemen, 2010, p. 7, 9, 11, 14).

In June, Yemen became a full-fledged member of the World Trade Organization (WTO). According to the Ministry of Industry and Trade, Yemen's legislative body (House of Representatives) approved the country's protocol of accession into the WTO in April, which led the country to become the 160th member of the organization. The implementation of the WTO multilateral trade system was expected to create opportunities to attract foreign investment to the country in an effort to develop the industrial and trade sectors, including the mining industry (Ministry of Industry and Trade, 2014; World Trade Organization, 2014).

In 2014, Yemen was planning to construct its first renewable energy project. The 60-megawatt wind-power farm was expected to be constructed at Mocha in southwestern Yemen, on the Red Sea. The project funding was secured through grants provided by the Arab Fund for Social and Economic Development ($65 million), and the Organization of the Petroleum Exporting Countries (OPEC) Fund for International Development, the Saudi Fund for Development, and the World Bank ($20 million each). The wind-power farm was expected to decrease Yemen's dependence on fossil fuels and contribute to lower cost electricity generation. The Ministry of Electricity and Energy, which managed the project, postponed an earlier procurement bid-submission deadline of March 10, 2015, to design, supply, erect, and connect the project to the national grid to a later date owing to security concerns in the country (World Bank, The, 2014; Yemen Wind, 2015).

Production

In 2014, marketed natural gas production (which was mainly produced and exported as LNG) decreased by about 6% to 9.6 billion cubic meters from 10.3 billion cubic meters in 2013. Yemen's crude oil production decreased by about 4% to 145,000 barrels per day (bbl/d) in 2014 from 150,000 bbl/d in 2013. Decreased crude oil and LNG production were attributable to several interruptions in production caused by militant and tribesmen attacks on the national crude oil and natural gas facilities and pipelines during the year. Estimates for industrial mineral commodities output were based on 2009 data (the latest reported data available) (table 1; U.S. Energy Information Administration, 2014; BP p.l.c., 2015, p. 8, 22).

Structure of the Mineral Industry

The Ministry of Oil and Minerals (MOM) managed mining and quarrying operations in the country through the Yemen Geological Survey and Mineral Resources Board (YGSMRB), which was established by Government Decree No. 317 of 1999. YGSMRB is the official body responsible for conducting geologic surveys and preparing geologic maps and publications in Yemen. YGSMRB also carries out minerals exploration and research as well as awards exploitation, exploration, and prospecting licenses in the country. YGSMRB is responsible for assessing mining projects and environmental impacts, developing and executing promotion plans and programs in open areas, exploring for mineral resources, and monitoring mining companies' activities (Yemen Geological Survey and Mineral Resources Board, 2015e).

In 2014, several companies had active mining licenses in Yemen. Al-Masafi Mining Co. Ltd. of Kuwait had two exploration licenses for metallic minerals; one license was for copper, gold, iron ore, lead, silver, and zinc at Nahm in the Governorate of Sana, which was expected to expire in 2016; another license was for iron ore and associated minerals at Hammer Mountain in the Governorate of Dhale, which was expected to expire in 2017. Anmar Co. of Yemen had an exploration license for chromium, copper, gold, iron ore, nickel, and silver in the southeast region of the Governorate of Taizz; the license expired in February 2014. Jabal Salab (Yemen) Ltd. of Yemen and the United Kingdom had an exploitation license for lead, silver, and zinc at Nahm in the Governorate of Sana; the license was expected to expire in 2027. Thani Dubai Mining Yemen of the United Arab Emirates had two exploration licenses for precious metals and basement rocks, including one at Madn Valley in the Governorate of Hadramawt and another at Sharis Valley in the Governorate of Hajjha; both licenses were expected to expire in 2016. Volrock Mining UK Ltd. of the United Kingdom had an exploration license for gold and associated minerals at A'ahim in the Governorate of Hajjah, which expired in March 2014. Yemen Iron and Steel of Yemen had an exploration license for iron ore and associated minerals at Thaniyah in the Governorate of Marib, which was expected to expire in 2015 (Abdulmageed, 2014, p. 257–260; Yemen Extractive Industries Transparency Initiative, 2014, p. 26–27).

The MOM managed the natural gas and petroleum sector in Yemen through the Petroleum Exploration and Production Authority (PEPA) and had several state-owned and joint-ventured subsidies that managed day-to-day activities. MOM's subsidies included Aden Refinery Co. (ARC), Masila Petroleum Exploration and Production Company (PetroMasila), Safer E and P Operation Co. (SEPOC), Yemen Company for Investments in Oil and Minerals (YICOM), Yemen LNG Co., Yemen Oil and Gas Corp. (YOGC), and Yemen Petroleum Co. (YPC) (table 2; U.S. Energy Information Administration, 2014; Yemen Oil and Gas Corp., 2015; Yemen Geological Survey and Mineral Resources Board, 2015d).

Mineral Trade

The volume of Yemen's crude oil exports was 17 million barrels (Mbbl) by yearend 2014. This was a 30% decrease in terms of volume compared with 24 Mbbl in 2013 and a 37% decrease in terms of value to $1.6 billion in 2014 from $2.6 billion in 2013. The decreased volume of crude oil exports was attributable to repeated armed attacks that were carried out by militants on state-owned crude oil pipelines. Yemen's volume of LNG exports was 8.9 billion cubic meters in 2014. About 93% of Yemen's LNG exports went to Asia. The U.S. accounted for about 2% of Yemen's LNG exports in 2014, a slight decrease from those of 2013 (Bakr, 2014; International Monetary Fund, 2014, p. 29; BP p.l.c., 2015, p. 28; Central Bank of Yemen, 2015, p. 41; World Bank, The, 2015, p. 21).

The U.S. trade balance with Yemen decreased by 32% to $307 million in 2014 from about $453 million in 2013. The value of U.S. imports from Yemen decreased by 37% to about $41 million in 2014 from about $66 million in 2013. This change was mostly attributable to a 38% decrease in the value of LNG imports from Yemen in 2014 compared with those of 2013. The value of U.S. exports to Yemen decreased by 33% to about $348 million in 2014 from about $518 million in 2013. In part, this was attributable to a 54% decrease in the value of iron and steel products exports to Yemen in 2014 compared with those of 2013, and the 43% decrease in the value of finished metal shapes exports to Yemen in 2014 compared with those of 2013. The value of U.S. refined petroleum products exports to Yemen increased by 14% in 2014 compared with those of 2013 owing to the increased consumption of refined petroleum products in Yemen (U.S. Census Bureau, 2015a–c).

Commodity Review

Metals

Gold.—According to the General Investment Authority, Yemen has economically viable deposits of gold and other metallic minerals located in various areas of the country based on previous explorations and prospecting operations. About 30 locations across the country were identified by the YGSMRB to have gold deposits, including the Governorates of Abyan, Hadramawt, Hajjah, Jawf, Sana, and Taizz. Al Hariqah gold deposit, which is located in the Governorate of Hajjah in northwestern Yemen, was estimated to have 39 million metric tons (Mt) of gold-bearing rock with an estimated gold content reported to be between 1 and 65 grams per metric ton (g/t). The Madn Valley in the Governorate of Hadramawt was estimated to have 678,000 metric tons (t) of gold-bearing rock with the estimated gold content reported to be 15 g/t. Other identified gold deposit locations included the Aluwazeih area in the Governorate of Taizz, which was estimated to have gold-bearing rock with a gold content of 0.6 g/t (National Yemen, 2013; Yemen Geological Survey and Mineral Resources Board, 2014c; General Investment Authority, 2015).

Cantex Mine Development Corp. of Canada was originally granted a prospecting license for metallic minerals, including gold, within an area of 5,200 km^2 in 1996. The company suspended its operations at the Al Hariqah gold project in July owing to the deterioration of security in the project area and the country in general. Since being renewed under the new mining law in January 2012, the company's licensed exploration area for gold was expanded from 71 km^2 to 956 km^2. The company's exploration license was initially valid for a period of 4 years, which could be extended for two additional periods of 4 years each (Cantex Mine Development Corp., 2014a, p. 16, 27).

WCP Resources Ltd. of Australia entered an agreement with Cantex Mine in 2011 to fund advanced exploration and mine development to commercial production at the Al Hariqah gold project. WCP Resources was expected to earn up to 70% interest in the project after providing a minimum of $30 million over a 7-year period. By the end of October, WCP Resources earned a 40% interest in the project after it met its expenditure commitment of $5 million within the first 2 years, according to the terms of the agreement (Cantex Mine Development Corp., 2014b).

The YGSMRB carried out surveys and exploration activities in 2013 in which it identified new mineral resources in the country, including metallic minerals at La'aa Valley in the Governorate of Taizz. Sixty-seven of the examined samples at this location showed gold content of 0.1 to 76.2 g/t; 46 of the examined samples showed silver content of 1 to 64 g/t; 8 of the examined samples showed copper content of 1.1% to 3.16%; 3 of the examined samples showed zinc content of 0.24% and lead content of 1.7% to 5.8% (Abdulmageed, 2014, p. 246, 249–250).

Industrial Minerals

Cement.— YGSMRB identified 12 locations for cement and related raw materials, including 2 locations for clays, 4 locations for gypsum, 4 locations for limestone, and 2 locations for sandstone in the Governorates of Al Hudaydah, Ibb, and Taizz. In 2014, civil unrest affected operations in the country's cement sector significantly. Yemen had 5.6 million metric tons per year (Mt/yr) of production capacity from five cement plants, including three Government-owned plants. An estimated $150 million expansion of Al Barah Cement Factory, which is located at Mafraq in the Governorate of Taizz in southwestern Yemen and was owned by the Yemen Corp. for Cement Industry and Marketing (YCC), was suspended in April. This was attributable to the country's security challenges. The expansion was expected to increase the factory's capacity to 0.75 Mt/yr from the current 0.5 Mt/yr (table 2; Abdulmageed, 2014, p. 252; Watts, 2014).

At yearend, Arabian Yemen Cement Co. Ltd. (AYCCL), which managed the Al-Oyoun Cement Factory in the Governorate of Hadramawt in southeastern Yemen, suspended its operations owing to repeated production interruptions owing to the unstable security situation in the area. The company operated one of the private cement factories in Yemen, which had a capacity of 1.5 Mt/yr (Global Cement, 2014; Yemen Press, 2014).

Mineral Fuels

Petroleum.—The Marib crude oil stream, which is located in central Yemen and was one of the country's two primary streams, is a light grade; the Masila crude oil stream, which is located in eastern Yemen and was the country's other primary crude oil stream, is a medium grade. The Marib pipeline, which was the primary crude oil export pipeline in Yemen, had a capacity of 200,000 bbl/d. The pipeline, which connected the Marib oilfield to the Ras Isa floating terminal on the Red Sea, suffered multiple attacks by militants and tribesmen that disrupted the country's crude oil exports. DNO Yemen resumed its production from Block 32 (Howarime) and Block 43 (South Howarime) in July, after it issued a force majeure in late June owing to disputes with labor unions that caused an interruption in the company's crude oil production of 3,400 bbl/d (table 2; Bakr, 2014; Crisp, 2014; Oil and Gas Journal, 2014; U.S. Energy Information Administration, 2014).

In early 2014, Petsec Energy Ltd. signed a $1 million agreement with AWE Ltd., both of Australia, to acquire a 21.25% interest in onshore Block 7 of the Al Barqua exploration license containing the Al Meashar oil discovery in eastern Yemen. The license, which was operated by Oil Search Ltd. of Australia and Papua New Guinea, was expected to cover an area of 5,000 km^2. The agreement was still awaiting approval by YOGC and MOM by yearend 2014 (Wilkinson, 2014).

By yearend 2014, Canadian Nexen Petroleum Yemen Ltd., which was a subsidiary of Nexen of Canada, managed Block 51 at East Al-Hajr oilfield that produced about 3,000 bbl/d of crude oil shared with the Government, announced a temporary shutdown of its operations in Yemen owing to the deterioration of the country's security situation. Dove Energy Ltd. of the United Kingdom, which managed Block 53 at the East Saar oilfield, submitted a request to MOM by yearend 2014 to release its crude oil block to the Government by the end of January 2015, which was 1 year earlier than the original end date of its 15-year production-sharing agreement (table 2; Al-Arashi, 2014).

Outlook

Yemen's economy is expected to have a slower rate of growth in 2015 compared with that of 2014 (International Monetary Fund, 2015, p. 175). The continued armed conflict is expected to affect Yemen's efforts to attract the new foreign direct investment that is necessary to develop the mineral industry sector. Exploration for gold and other metallic minerals is expected to remain on hold pending a resolution of the country's security issues. Cement production is also expected to continue to decrease and the sector's plans to expand are expected to be delayed. Yemen is unlikely to see an increase in crude oil production in the short term. The country is expected to restore previous production levels and increase production gradually over the next few years. Maintaining increases in crude oil production, however, is contingent upon the country's continuous stability and the availability of adequate foreign investment to develop the upstream petroleum sector. Declining international crude oil prices are expected to decrease significantly the Government's revenue from hydrocarbon exports in the short run. Such decreases in Government revenue are expected to have an adverse effect on the overall performance of the country's economy. Despite Yemen's promising potential in the LNG sector, no significant production increase is expected over the medium term (Bakr, 2014; Cantex Mine Development Corp., 2014a, p. 16; Crisp, 2014; International Monetary Fund, 2014, p. 3; Oil and Gas Journal, 2014; Yemen Press, 2014; Central Bank of Yemen, 2015, p. 41–42; World Bank, The, 2015, p. 2, 20).

References Cited

Abdulmageed, A.R., 2014, Geologic survey and mineral exploration activities in the Republic of Yemen—Proceedings of the 13th international Arab mineral resources conference and its accompanying exhibition, Marrakech, Morocco, April 28–30, 2014: Marrakech, Morocco, Arab Industrial Development and Mining Organization, 910 p.

Al-Arashi, Fakhri, 2014, Yemen oil industry loses ground: National Yemen, December 22. (Accessed June 3, 2015, at http://nationalyemen/2014/12/22/yemen-oil-industry-loses-ground/.)

Al-Razhi, N.A., 2014, Geologic survey and mineral exploration activities in the Republic of Yemen—Proceedings of the 13th international Arab mineral resources conference and its accompanying exhibition, Marrakech, Morocco, April 28–30, 2014: Marrakech, Morocco, Arab Industrial Development and Mining Organization, 910 p.

Bakr, Amena, 2014, Yemeni tribesmen blow up Marib oil pipeline, stop crude flows: Thomson Reuters, March 22. (Accessed June 19, 2015, at http://www.reuters.com/assets/print?aid=USBREA2L0ER20140322.)

BP p.l.c., 2015, BP statistical review of world energy—June 2015: London, United Kingdom, BP p.l.c., 48 p. (Accessed June 15, 2015, at http://www.bp.com/content/dam/bp/pdf/Energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf.)

Cantex Mine Development Corp., 2014a, Consolidated financial statement of Cantex Mine Development Corp.: Kelowna, British Columbia, Canada, Cantex Mine Development Corp., July 31, 29 p. (Accessed June 6, 2015, at http://www.cantex.ca/FS_2014_07.pdf.)

Cantex Mine Development Corp., 2014b, WCP earns 40% interest in the Al Hariqah gold project: Kelowna, British Columbia, Canada, Cantex Mine Development Corp., Press release, October 31, 2 p. (Accessed June 16, 2015, at http://www.cantex.ca/2014-10-31.pdf.)

Central Bank of Yemen, 2015, Banking and monetary developments—Brief: Central Bank of Yemen, January, 80 p. (Accessed June 17, 2015, at http://www.centralbank.gov.ye/App_Upload/Jan2015.pdf.)

Crisp, Wil, 2014, Yemen oil pipeline bombed—Exports disrupted as violence escalates: MEED, July 14. (Accessed June 11, 2015, at http://www.meed.com/sectors/oil-and-gas/yemen-oil-pipeline-bombed/3193786.article.)

General Investment Authority, 2015, Geological survey and mineral resources: General Investment Authority. (Accessed June 12, 2015, at http://www.investinyemen.org/content.php?c=8&langid=2&pageid=5.)

Global Cement, 2014, Security issues hit Eastern Cement production in Yemen: Global Cement, November 28. (Accessed June 22, 2015, at http://www.globalcement.com/news/item/3101-security-issues-hit-eastern-cement-production-in-yemen.)

International Monetary Fund, 2014, Yemen 2014 article IV consultation: Washington, DC, International Monetary Fund, Country Report no. 14/276, September, 122 p. (Accessed June 13, 2015, at http://www.imf.org/external/pubs/ft/scr/2014/cr14276.pdf.)

International Monetary Fund, 2015, World economic outlook—Uneven growth, short and long-term factors: Washington, DC, International Monetary Fund, April, 230 p. (Accessed June 19, 2015, at http://www.imf.org/external/pubs/ft/weo/2015/01/pdf/text.pdf.)

Library of Congress, 2008, Yemen—Country profile: Washington, DC, Library of Congress, August, 26 p. (Accessed June 16, 2015, at http://www.loc.gov/rr/frd/cs/profiles/Yemen.pdf.)

Ministry of Industry and Trade [Yemen], 2014, House of Representatives approves Yemen protocol of accession to the World Trade Organization: Ministry of Industry and Trade, April 28. (Accessed June 22, 2015, at http://www.moit.gov.ye/moit/node/2215.)

National Yemen, 2013, Geological Survey reveals numerous gold sources in Yemen: National Yemen, August 3. (Accessed July 14, 2015, at http://nationalyemen.com/2013/08/03/geological-survey-reveals-numerous-gold-sources-in-yemen/.)

Oil and Gas Journal, 2014, DNO resumes production from Yemen blocks: Oil and Gas Journal, July 7. (Accessed June 19, 2015, at http://www.ogj.com/articles/2014/07/dno-resumes-production-from-yemen-blocks.html.)

Prospect Group, The, 2014, Yemen LNG spearheading natural gas sector in Yemen represents nearly 25% of GDP: The Prospect Group, August 11. (Accessed June 20, 2015, at http://www.theprospectgroup.com/yemen-lng-spearheading-natural-gas-sector-in-yemen-represents-nearly-25-gdp-82153/.)

Pugachevsky, Alexandra, 2011, Yemen: The mineral sector—Analysis of potential and Government action needed to spur development: Washington, DC, The World Bank, No. 1–64471, September. (Accessed June 6, 2015, at http://documents.worldbank.org/curated/en/2011/09/15039809/yemen-mineral-sector-analysis-potential-governement-action-needed-spur-development.)

Republic of Yemen, 2010, Law no. 22 for the year 2010—Concerning mines and quarries: Republic of Yemen, 54 p. (Accessed June 17, 2015, at http://www.ygsmrb.org.ye/en/files/pdf/law1.pdf.)

Thomson Reuters, 2015, Yemen oil revenues decreased by 37.2% in 2014: Thomson Reuters, February 18. (Accessed June 24, 2015, at http://ara.reuters.com/articlePrint?articleID=ARAKBN0LM18620150218.)

U.S. Census Bureau, 2015a, U.S. exports to Yemen by 5-digit end-use code 2005-2014: U.S. Census Bureau. (Accessed June 18, 2015, at http://www.census.gov/foregin-trade/statistics/product/endues/exports/c5210.html.)

U.S. Census Bureau, 2015b, U.S. imports from Yemen by 5-digit end-use code 2005–2014: U.S. Census Bureau. (Accessed June 18, 2015, at http://www.census.gov/foregin-trade/statistics/product/endues/imports/c5210.html.)

U.S. Census Bureau, 2015c, Trade in goods with the Republic of Yemen: U.S. Census Bureau. (Accessed June 18, 2015, at https://www.census.gov/foreign-trade/balance/c5210.html.)

U.S. Energy Information Administration, 2014, Yemen: U.S. Energy Information Administration country analysis brief, September 25. (Accessed June 6, 2015, at http://www.eia.gov/countries/cab.cfm?fips=YM.)

Watts, Mark, 2014, Yemen cement expansion put on hold: MEED, April 2. (Accessed June 3, 2015, at http://www.meed.com/3190825.article.)

Wilkinson, Rick, 2014, Petsec Energy buys block interest in Yemen: Oil and Gas Journal, March 28. (Accessed June 19, 2015, at http://www.ogj.com/articles/2014/03/petsec-energy-buys-block-interest-in-yemen.html.)

World Bank, The, 2014, World Bank announces a $20 million grant for Yemen's first ever wind power project: Washington, DC, The World Bank press release, March 7. (Accessed June 13, 2015, at http://www.worldbank.org/en/news/press-release/2014/03/07/world-bank-announces-a-us20-million-grant-yemen-first-wind-power-project.)

World Bank, The, 2015, MENA quarterly economic brief—Plunging oil prices: The World Bank, issue 4, January. (Accessed June 1, 2015, at https://openknowledge.worldbank.org/bitstream/handle/10986/21349/938470Box385410c0Biref0January02015.pdf?sequence=9.)

World Trade Organization, 2014, Yemen to become 160th WTO member: World Trade Organization, May 27. (Accessed June 12, 2015, at https://www.wto.org/english/news_e/news14_e/acc_yem_27may14_e.htm.)

Yemen Extractive Industries Transparency Initiative, 2014, Third Yemen EITI reconciliation report (2011): London, United Kingdom, Hart Nurse Ltd., April 23. (Accessed July 14, 2015, at https://eiti.org/files/YEM3_11_apr_2014.pdf.)

Yemen Oil and Gas Corp., 2015, About us: Yemen Oil and Gas Corp.. (Accessed June 19, 2015, at http://www.yogc.com.ye/en/view.asp?id=1.)

Yemen Geological Survey and Mineral Resources Board, 2015a, Building and decorative stones in Yemen: Yemen Geological Survey and Mineral Resources Board. (Accessed July 16, 2015, at http://www.ygsmrb.org.ye/en/index.php?option=com_content&view=article&id=95&Itemid=320.)
Yemen Geological Survey and Mineral Resources Board, 2015b, Investment opportunities in industrial minerals in Yemen: Yemen Geological Survey and Mineral Resources Board. (Accessed June 16, 2015, at http://www.ygsmrb.org.ye/en/index.php?option=com_content&view=article&id=201&Itemid=292.)
Yemen Geological Survey and Mineral Resources Board, 2015c, Investment opportunities in metallic minerals in Yemen: Yemen Geological Survey and Mineral Resources Board. (Accessed June 16, 2015, at http://www.ygsmrb.org.ye/en/index.php?option=com_content&view=article&id=200&Itemid=291.)
Yemen Geological Survey and Mineral Resources Board, 2015d, The mining companies operating in Yemen: Yemen Geological Survey and Mineral Resources Board. (Accessed June 16, 2015, at. http://www.ygsmrb.org.ye/en/index.php?option=com_content&view=article&id=198&Itemid=285.)
Yemen Geological Survey and Mineral Resources Board, 2015e, YGSMRB—About us: Yemen Geological Survey and Mineral Resources Board. (Accessed June 30, 2015, at http://www.ygsmrb.org.ye/en/index.php?option=com_content&view=article&id=47&Itemid=93.)
Yemen Press, 2014, Closing the biggest Saudi cement factory in Hadhramaut and sending its workers home: Yemen Press, November 22. (Accessed June 26, 2015, at http://www.yemeress.com/alkhabar/155766.)
Yemen Wind, 2015, Mocha 60 mw wind farm submission date postponement: Yemen Wind. (Accessed June 26, 2015, at http://www.yemenwind.com/.)

TABLE 1
YEMEN: ESTIMATED PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Thousand metric tons unless otherwise specified)

Commodity[3]		2010	2011	2012	2013	2014
INDUSTRIAL MINERALS						
Cement		3,600	2,800	2,800	3,000	2,500
Gypsum		200	100	100	100	100
Salt		75	75	75	75	50
Sand and gravel		12,500	6,000	6,000	6,000	6,000
Stone:						
Basalt		900	500	500	500	500
Granite		220	100	100	100	100
Limestone		6,000	3,000	3,000	3,000	3,000
Marble		250	250	250	250	250
Volcanic tuff		2,700	1,400	1,400	1,400	1,400
MINERAL FUELS AND RELATED MATERIALS						
Natural gas:						
Gross	million cubic meters	29,200	29,600	29,600	30,000	30,000
Marketed	do.	6,200	9,400	7,600 [4]	10,300 [4]	9,600 [4]
Petroleum:						
Crude, including condensate[4]	thousand 42-gallon barrel	111,690 r	87,965 r	69,350 r	54,750 r	52,925
Refinery products:						
Liquefied petroleum gas	do.	8,538 [4]	6,786 [4]	7,772 [4]	9,245 [4]	9,000
Naphtha	do.	761 [4]	1,861 [4]	2,704 [4]	6,054 [4]	6,000
Gasoline	do.	8,052 [4]	3,736 [4]	1,092 [4]	1,552 [4]	1,330 [4]
Kerosene	do.	3,633 [4]	1,956 [4]	1,252 [4]	3,262 [4]	2,250 [4]
Distillate fuel oil	do.	8,176 [4]	5,684 [4]	2,651 [4]	6,430 [4]	8,400 [4]
Residual fuel oil	do.	3,976 [4]	3,263 [4]	1,379 [4]	4,296 [4]	4,000
Asphalt	do.	594 [4]	145 [4]	79 [4]	145 [4]	100
Total	do.	33,730 [4]	23,431 [4]	16,929 [4]	30,984 [4]	31,100

[r]Revised. do. Ditto.
[1]Estimated data are rounded to no more than three significant digits; may not add to totals shown.
[2]Table includes data available through July 14, 2015.
[3]In addition to the commodities listed, aggregate, clays, feldspar, mica, silica sand, scoria, talc, and zeolites may have been produced, but available information is inadequate to make reliable estimates of output.
[4]Reported figure.

TABLE 2
YEMEN: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity[e]
Basalt		Local private companies	Hadramawt, Sana, Taizz, Dhamar	900
Cement		Amran Cement Factory [Yemen Corporation for Cement Industry and Marketing (YCC), 100%]	Kilns and mills at Amran	1,500
Do.		Al Barah Cement Factory [Yemen Corporation for Cement Industry and Marketing (YCC), 100%]	Kilns and mills at Mafraq	500
Do.		Bajil Cement Factory [Yemen Corporation for Cement Industry and Marketing (YCC), 100%]	Kilns and mills at Bajil near Taizz	500
Do.		National Cement Co. (Hayel Saeed Anam & Co. Ltd., 100%)	Kilns and mills at Wadi Saim, Lahj	1,600
Do.		Arabian Yemen Cement Co. Ltd. (Eastern Province Cement Co., 31.5%; Al-Amoudi Group, 15%; Bagshan Group, 15%; Saudi Binladin Group, 10%; Baroom Investment Holding Co. Ltd., 10%; Ali Ali Hussain Miksa, 10%; Sara Development Co. Ltd., 3.5%; Yemeni Group for Development of Yemen, 5%)	Kilns and mills at Al-Oyoun, Hadramawt	1,500
Clays		Local private companies	Al Hudaydah, Lahj, Ebb, Hajjah, Jawf, Marib, Sana, Shabwah, Taizz	700
Gypsum		do.	Al Hudaydah, Hadramawt, Sana, Shabwah	200
Limestone		do.	Amran, Hadramawt, Sana, Taizz	4,000
Do.		3S Minerals Pvt. Ltd.	Hadramawt	1,000
Do.		Naine Minerals and Resources Pte. Ltd.	Hadramawt, Yathmoon	1,000
Marble		do.	Hajjah, Marib, Taizz	700
Natural gas:				
Associated	million cubic meters	Jannah Hunt Oil Co. [Yemen Oil and Gas Corp. (YOGC), 71%, and Hunt Oil Co., 29%]	Jannah field (Block 5)	227
Liquefied		Yemen LNG Co. (Total E&P Yemen, 39.62%; Hunt Oil Co., 17.22%; Yemen Gas Co., 16.73%; SK Energy, 9.55%; Korea Gas Corp., 6.00%; Hyundai Corp., 5.88%; Yemen General Authority for Social Security and Pensions, 5.00%)	Marib field (Block 18), LNG plant in Belhaf	6,700
Petroleum:				
Crude	thousand 42-gallon barrels	Occidental Petroleum Yemen [Occidental Petroleum Corp., 65%, and Yemen Oil and Gas Corp. (YOGC), 35%]	Damis oilfield (Block S1)	4,000
Do.	do.	OMV A.G., 68%, and Yemen Oil and Gas Corp. (YOGC), 32%	Al-Uqla oilfield (Block S2)	1,560
Do.	do.	Calvalley Petroleum Ltd., 59%, and Yemen General Corporation for Oil and Gas (YOGC), 41%	Malik oilfield (Block 9)	2,000
Do.	do.	DNO Yemen [Yemen Oil and Gas Corp. (YOGC), 52%, and DNO International ASA, 48%]	Hwarim oilfield (Block 32)	3,300
Do.	do.	DNO Yemen [DNO International ASA, 62%, and Yemen General Corporation for Oil and Gas (YOGC) , 38%]	South Hwarim oilfield (Block 43)	2,600
Do.	do.	Yemen Oil and Gas Corp. (YOGC), 51%, and Dove Energy Ltd., 49%	East Saar oilfield (Block 53)	3,200
Do.	do.	Jannah Hunt Oil Co. [Yemen Oil and Gas Corp. (YOGC), 71%, and Hunt Oil Co., 29%]	Jannah oilfield (Block 5)	15,700
Do.	do.	Korea National Oil Co. (KNOC), 82%, and Yemen Oil and Gas Corp. (YOGC), 18%	West Ayad field (Block 4)	123
Do.	do.	Total E&P Yemen [Yemen Oil and Gas Corp. (YOGC), 59%, and Total S.A., 41%]	East Shabwah oilfield (Block10)	13,700

See footnotes at end of table.

TABLE 2–Continued
YEMEN: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity[e]
Petroleum—Continued:				
Crude—Continued	thousand 42-gallon barrels	Safer E&P Operations Co. (Government, 100%)	Marib field (Block 18)	22,000
Do.	do.	Canadian Nexen Petroleum Yemen Ltd. [Nexen Inc., 63%, and Yemen Oil and Gas Corp. (YOGC), 37%]	East Al-Hajr field (Block 51)	3,000 [1]
Do.	do.	Masila Petroleum Exploration and Production Co. (PetroMasila)	Masila field (Block 14)	42,000
Refined	do.	Aden Refinery Co. (Government, 100%)	Refinery at Aden	150,000
Do.	do.	Yemen Oil Refining Co. (Yemen Hunt Oil Co. and Exxon Yemen, Inc., 75.5%, and Yukong Group, 24.5%)	Topping plant at Marib	10,000
Pumice		Local private companies	Dhamar	2,500
Salt:				
Crude:				
Marine		Local private companies	Eleven saltworks near Aden	150
Rock		do.	Five salt mines near Salif	140
Refined		Salt Refining and Packing Factory (Government)	Salif	50
Do.		Aden Salt Factory (Government)	Aden	150
Scoria		Local private companies	Dhamar, Marib, Shabwah	500
Steel, finished products		Arab Iron and Steel Corp.	do.	100
Do.		Mukalla Iron and Steel Co.	Rayan	500
Do.		Yemen Steel Manufacturing Company Ltd. (Al-Rhabi Trading Group, 100%)	Al Hodaydah	500
Stone		About 1,900 local private companies	Dhamar, Mayana, Sana, Taizz, and Wadi Marek	16,000

[e]Estimated. Do., do. Ditto.
[1]Operations were suspended in 2014.