



2019 Minerals Yearbook

CUBA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF CUBA

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Cuba's mineral industry continued to be dominated by the production of nickel and cobalt (as a byproduct of nickel processing). In 2019, the country was estimated to rank fifth among the world's leading producers of cobalt, ninth among the world's leading producers of nickel, and eighth among the world's leading producers of zeolites. During the year, the Empresa Mixta Minera del Caribe S.A. (Emincar) continued to ramp up production at the Castellanos lead and zinc mine. The Castellanos Mine began operations in 2017 and was the first new mining project in the country in more than 20 years. Other nonfuel mineral commodities produced in the country included bentonite, cement, feldspar, gypsum, kaolin, lead, lime, limestone, marble, salt, silica sand, raw steel, and sulfuric acid. Cuba also produced fuel mineral commodities, such as crude petroleum, natural gas, and petroleum refinery products. The country had significant mineral resources of cobalt and nickel and, in 2019, was estimated to account for about 7% of the world's cobalt reserves and 6% of the world's nickel reserves. Other identified mineral resources in Cuba included metallic minerals, such as chromium, copper, gold, iron, manganese, silver, and tungsten; and industrial minerals, such as asbestos, barite, basalt, clay, kyanite, gabbro, garnet, graphite, magnesite, mica, olivine, phosphate rock, quartz, quartz sand, quartzite, and semiprecious stones (table 1; Trafigura Group Pte. Ltd., 2018, p. 30; Ministerio del Comercio Exterior y la Inversión Extranjera, 2019, p. 255; McRae, 2020; Shedd, 2020).

In 2019, Cuba's real gross domestic product (GDP) decreased by 0.2% compared with an increase of 2.2% in 2018. The decrease in the country's economy was mainly attributable to the United States economic sanctions and trade embargo imposed on Cuba as well as the prevailing socioeconomic and political crisis in Venezuela, which continued to be Cuba's main trading partner. Cuba continued to import most of its crude petroleum requirements from Venezuela; however, Cuba's ability to secure crude petroleum from Venezuela continued to decline owing to Venezuela's prevailing socioeconomic and political crisis as well as new sanctions imposed by the United States in 2019. In July, the United States imposed sanctions on the state-run petroleum import and export company, CUBAMETALES (also known as Empresa Cubana Importadora y Exportadora de Combustibles y Lubricantes) for its continued importation of crude petroleum from Venezuela. In September, the sanctions further targeted entities and vessels that transported crude petroleum and other petroleum products from Venezuela to Cuba (Petróleos de Venezuela, S.A., 2017; Economic Commission for Latin America and the Caribbean, 2019a, b; U.S. Department of the Treasury, 2019a, b).

Minerals in the National Economy

The industrial manufacturing sector (excluding the sugar industry) made up 11% of the country's GDP; the construction sector, 7%; and the mining and quarrying sector, 0.4%.

Employment in the mining and quarrying sector, which increased by about 2% to 22,000 workers in 2019, continued to account for less than 1% of the total employment. During the year, 315 enterprises operated in the industrial manufacturing sector, which excluded the sugar industry, and 20 enterprises operated in the mining and quarrying sector (Oficina Nacional de Estadística e Información, 2020a, p. 12, 16; 2020b, p. 13; 2020d, p.8).

According to information reported in the Portfolio of Opportunities for Foreign Investment 2019–2020, which was published by the Ministry of Foreign Trade and Investment, the country was offering foreign investment opportunities in the mining sector for the prospecting for and exploration, mining, and commercialization of metals, such as copper, gold, lead, silver, tungsten, and zinc, and of industrial minerals, such as kaolin and mica. Concession areas included the regions of Central Cuba (9 prospects for copper, gold, lead, silver, and zinc), Ciego de Avila-Camaguey-Tunas (14 prospects for copper, gold, lead, silver, and zinc), Holguin and Macizo Sagua-Baracoa (12 prospects for chromite, copper, gold, lead, silver, and zinc), Sierra Maestra (10 prospects for copper, gold, lead, silver, and zinc), and the Special Municipality of the Isle of Youth (8 prospects for kaolin, mica, and tungsten) (Ministerio del Comercio Exterior y la Inversión Extranjera, 2019, p. 79–80).

Government Policies and Programs

Cuba's mining sector is regulated by the Ley de Minas [Mining Law] (law No. 76 of 1994), which establishes the country's mining policy and legal regulations for the development of mineral resources. The Ministerio de Energía y Minas [Ministry of Energy and Mines] (Law Decree No. 301) is the entity responsible for establishing Government policy for the energy and mining sectors. The Ley de Inversión Extranjera [Law of Foreign Investment] (law No. 118 of 2014) establishes the legal framework for foreign investment in the country. The Government-owned Union Cuba-Petróleo (CUPET) was responsible for exploring for, producing, refining, and marketing the country's petroleum and its derivatives (Gaceta Oficial de la República de Cuba, 2014, p. 177–178).

Production

In 2019, estimated lead production increased by 50% to 30,000 metric tons (t) from 20,000 t in 2018 and estimated zinc production increased by 33% to 60,000 t from 45,000 t in 2018. The increases in estimated lead and zinc production were attributed to the ramp up of production at the Castellanos Mine. The production of several industrial minerals, such as other unspecified crushed stone, lime, calcareous sand, and cement decreased by about 22%, 19%, 18%, and 12%, respectively (Oficina Nacional de Estadística e Información, 2020c). Data on mineral production are in table 1.

Structure of the Mineral Industry

Most mining operations in Cuba were Government owned or were joint ventures with the Government. Nickel and cobalt were produced in the country by Government-owned Empresa Niquelífera Ernesto Che Guevara and by Moa Nickel S.A., which was a joint venture between Sherritt International Corp. of Canada (Sherritt) and the Government (50% each). Lead and zinc were produced by Emincar, which continued to be the only producer of lead and zinc in the country. Emincar was a joint venture between Government-owned Geominera S.A. (51%) and Trafigura Group Pte. Ltd. of Singapore (49%). Petroleum refinery products were produced by CUPET at the Camilo Cienfuegos, the Hermanos Díaz, the Níco López, and the Sergio Soto refineries. Camilo Cienfuegos was the largest refinery in the country and had the capacity to produce about 23.7 million barrels per year of petroleum products. Table 2 is a list of major mineral facilities.

Mineral Trade

In 2019, the total value of Cuba's exports decreased by about 14% to about \$82 million¹ from \$95 million in 2018 and the total value of imports decreased by 14% to about \$396 million from \$459 million in 2018. During the year, mining products accounted for about 30% of the country's total exports. Canada continued to be Cuba's major export partner, receiving 22% of the country's total exports, by value, in 2019, followed by China (21%), Venezuela (13%), and Spain (11%). Venezuela supplied 18% of Cuba's total imports, by value, in 2019; however, imports from Venezuela decreased by 33% from those of 2018 (Oficina Nacional de Estadística e Información, 2020e, p. 12–17, 19).

Commodity Review

Metals

Cobalt and Nickel.—Moa Nickel continued to mine and process mixed sulfides containing nickel and cobalt at its facilities in Holguin Province. The mixed sulfides were transported by ocean freight to Canada and then by rail to Sherritt's refining facilities in Fort Saskatchewan, Alberta, Canada. Moa Nickel's operations included its Central Moa project (Camarioca Norte, Camarioca Sur, Limestone Mud, Moa Occidental, Moa Oriental, Playa La Vaca-Zona Septentrional II, and Yagrumaje Oeste concessions) and its Eastern Satellites project (Cantarrana, La Delta, and Santa Teresita concessions), which together cover a total area of 12,322 hectares. Sherritt reported that based on depletion rate estimates, the concessions at Moa Nickel were planned to be mined until at least 2034. As of December 31, total proven and probable reserves at the Central Moa and Eastern Satellites projects were reported as 51.1 Mt at average grades of 1.16% nickel and 0.13% cobalt (Sherritt International Corp. 2020a, p. 10, 17, 19–20).

¹Where necessary, values have been converted from Cuban pesos (CUP) to U.S. dollars (US\$) at an annual average exchange rate of CUP25.00=US\$1.00 for 2018 and 2019.

In 2019, total production of finished nickel and cobalt was 33,108 t and 3,376 t, respectively, compared with 30,708 t and 3,234 t, respectively, in 2018. The increase in the production of finished nickel and cobalt from that of 2018 was mainly attributed to efforts to improve ore access. During the fourth quarter of 2019, Sherritt implemented several mitigation strategies to offset the negative effects that diesel fuel supply shortages in Cuba had on Moa Nickel operations—shortages that were mainly attributed to the economic and trade sanctions imposed by the United States. In November, operations were also negatively affected by a week-long strike by Canadian National Railway Co. workers that affected the transportation of mixed sulfides within Canada. Sherritt expected to produce between 32,000 and 33,000 t of finished nickel and between 3,300 and 3,400 t of finished cobalt in 2020 (Sherritt International Corp., 2020a, p. 10; 2020c–e).

Lead and Zinc.—The Castellanos Mine, which is located at Minas de Matahambre in Pinar del Rio Province, had an estimated mine life of 22 years and the capacity to produce about 100,000 metric tons per year (t/yr) of zinc concentrate and 50,000 t/yr of lead concentrate. During the year, the Castellanos processing plant reached its annual capacity of 1.0 million metric tons (Mt); however, plans to increase its capacity to 1.2 Mt in 2020 were underway (Trafigura Group Pte. Ltd., 2018, p. 30; 2019, p. 26).

Industrial Minerals

Cement.—In 2018, Government-owned Grupo Empresarial de Cemento (GECEM) announced its plans to increase cement production in the country, which included the launching of a modernization program for the Empresa de Cemento Siguaney and the Empresa de Cemento 26 de Julio plants as well as the construction of a new cement plant in Santiago de Cuba that would replace the outdated Jose Merceron cement plant. In 2019, the Empresa de Cemento Siguaney, which reduced operations at its cement plant for about 18 months while maintenance work was carried out, resumed all operations at the plant in November. Meanwhile, modernization work at the Empresa de Cemento 26 de Julio was underway; GECEM expected to complete the refurbishing of Empresa de Cemento 26 de Julio by 2021. The company also announced that the new cement plant in Santiago de Cuba, which would have the capacity to produce about 1.2 million metric tons per year (Mt/yr) of cement and about 1.0 Mt/yr of clinker, was expected to be completed by 2021 (table 2; Pro Global Media Ltd., 2018, 2019; Romero, 2018; Agencia Cubana de Noticias, 2019; Radio Nuevitas, 2019).

Mineral Fuels

Petroleum and Natural Gas.—Cuba continued its efforts to lessen its reliance on imports. According to the Portfolio of Opportunities for Foreign Investment 2019–2020, the country was offering joint ventures in petroleum extraction from onshore and offshore fields, including 83 offshore blocks located in the Exclusive Economic Zone in the Gulf of Mexico; 21 onshore blocks located throughout the country; and 10 shallow-water blocks located in the Provinces of Artemisa, Camaguey,

Ciego de Avila, Granma, Matanzas, Mayabeque, Pinar del Rio, and Villa Clara. As of 2018, Cuba's proven crude petroleum reserves were estimated to be about 124 million barrels (Mbbbl), and its natural gas reserves were estimated to be 70.8 billion cubic meters (U.S. Energy Information Administration, 2016; Ministerio del Comercio Exterior y la Inversión Extranjera, 2019, p. 79–80; U.S. Central Intelligence Agency, 2020).

Melbana Energy Ltd. of Australia continued exploration work at its Block 9 production-sharing contract (PSC), which was signed with CUPET in 2015. Block 9 was located on the north coast of Cuba about 140 kilometers east of Havana and covers an area of 2,380 square kilometers (km²). Under the PSC, the exploration period for the block was split into four subperiods, with withdrawal options at the end of each subperiod.

During the year, the company requested amendments to the Block 9 PSC, which were then approved by CUPET in October. The approved amendments included the extension of the second exploration subperiod to November 2020 with no change to the commitment to drill one exploration well during the subperiod and the extension of the exploration period by 1 year. The amendment also included the voluntary relinquishment of 24.6 km², or about 1% of the total area, which decreased the reported total prospective resources (estimated) from Block 9 to 676 Mbbbl of crude petroleum from 718 Mbbbl. As a result, the company reported that identified exploration potential in the block was estimated to be about 14.8 billion barrels of oil-in-place, representing a prospective resource of 676 Mbbbl. In December, Melbana signed a farmout agreement with Sonangol E.P. of Angola for the acquisition of a 70% participating interest in the Block 9 PSC. The agreement included the commitment from Sonangol to drill two exploration wells and for Melbana to remain the operator until the completion of the two-well drilling campaign (Melbana Energy Ltd., 2019, p. 2, 36; 2020a; 2020b, p. 1, 3).

Sherritt also held 100% working interest in PSCs with CUPET, including the Puerto Escondido-Yumuri oilfields, which were in the production phase, and Block 10, which was in the exploration phase. In 2019, Sherritt's gross working-interest crude petroleum production decreased to 4,175 barrels per day (bbl/d) from 4,839 bbl/d in 2018. The decrease was attributed to natural reservoir declines and the absence of new development drillings during the year. The company reported that crude petroleum production on a gross working-interest basis was expected to be between 3,000 and 3,300 bbl/d in 2020, which was attributed to the natural decrease in production from maturing oilfields. Sherritt did not plan to drill any additional development wells in Puerto Escondido and Yumuri in 2020. By yearend, Sherritt had completed the drilling of a Block 10 exploration well, reaching the target depth of 5,700 meters, and preliminary testing was underway (Sherritt International Corp., 2020a, p. 10; 2020b, p. 2; 2020c).

Outlook

Cuba's GDP was forecasted to decrease by about 8.0% in 2020. The slow growth in the economy is expected owing to the tightening of United States sanctions as well as the continuing economic and political crisis in Venezuela. Cuba's economy is likely to be affected by the coronavirus disease

2019 (COVID–19) pandemic, although the main effects will be in the country's external sector (including tourism and exports). The country relies heavily on tourism as a source of employment and Government revenue. Exports are likely to be affected by an expected decrease in the international price of commodities, such as nickel. The price of nickel is expected to decrease by more than 10% in the first quarter of 2020. Moa Nickel (the leading producer of nickel and cobalt in the county) is likely to produce up to 33,000 t of finished nickel and up to 3,400 t of finished cobalt in 2020. Cuba is expected to continue with efforts to lessen its reliance on crude petroleum imports and to seek foreign direct investment to further develop its hydrocarbon mineral resources as well as its nonfuel mineral resources, particularly copper, gold, lead, silver, and zinc (Economic Commission for Latin America and the Caribbean, 2020, p. 1, 4; Sherritt International Corp., 2021).

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TABLE 1
CUBA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2015	2016	2017	2018	2019	
METALS						
Cobalt, mine, Co content ^c	4,000	3,900	3,900	3,500	3,700	
Iron and steel, raw steel	221,800	205,000	210,100	222,000	235,000	
Lead, mine, Pb content	--	--	NA	20,000 ^e	30,000 ^e	
Nickel, Ni content:						
Mine, laterite ore	53,800	51,600	52,800	52,200 ^r	49,200	
Intermediate: ^c						
Ammoniacal liquor precipitate and unspecified	1,100 ^r	1,800 ^r	1,800 ^r	1,300 ^r	1,300	
Nickel cobalt sulfide	36,700	34,800	35,200	34,800	37,000	
Oxide sinter, including oxides	14,667	15,006	15,751	14,670 ^r	15,000 ^e	
Zinc, mine, Zn content	--	--	5,000 ^e	45,000 ^e	60,000 ^e	
INDUSTRIAL MINERALS						
Abrasives, volcanic ash	99,900	105,000	98,300	93,300	93,000 ^e	
Cement, hydraulic	thousand metric tons	1,518 ^r	1,493 ^r	1,431 ^r	1,590 ^f	1,407
Clay:						
Bentonite	500	389	589	630	600 ^e	
Kaolin	1,500	2,500	1,500	2,700	2,700 ^e	
Feldspar, mine	3,300 ^e	3,900	3,600	3,000	3,000 ^e	
Gypsum, mine	thousand metric tons	91	74	85	100	100 ^e
Lime	51,500	48,600	47,600	50,000	40,500	
Salt	thousand metric tons	285	248	246	193	200 ^e
Sand and gravel, industrial, silica	25,000	19,000	22,000	23,000	23,000 ^e	
Stone, sand and gravel, construction:						
Sand and gravel, sand, calcareous ³	thousand metric tons	2,900	2,800	2,600	2,800	2,300
Stone:						
Crushed:						
Limestone	do.	1,900	1,900	1,900	2,100	2,100 ^e
Other, unspecified ³	do.	7,200	6,800	6,300	6,900	5,400
Other, size and shape unspecified, marble ³		13,000	16,000	19,000	21,000	21,000 ^e
Sulfur, compounds, sulfuric acid	thousand metric tons	406	533	913	945	969
Zeolites	50,800	52,800	56,500	52,600	53,000 ^e	
MINERAL FUELS AND RELATED MATERIALS						
Natural gas, marketable	thousand cubic meters	1,244,500	1,185,400	1,050,800	970,100	1,000,000 ^e
Petroleum:						
Crude	thousand 42-gallon barrels	20,685	19,199	18,000	18,000 ^e	18,000 ^e
Refinery: ⁴						
Asphalt	do.	390	350	350	380 ^r	380 ^e
Fuel oil	do.	17,000	8,000	9,000	10,000 ^r	10,000 ^e
Gasoline, motor	do.	3,800	1,600	1,200	1,800 ^r	1,800 ^e
Kerosene	do.	220	12	20	50 ^r	50 ^e
Liquefied petroleum gas	do.	590	400	600	350 ^r	350 ^e
Lubricants	do.	350	350	350	360 ^r	360 ^e
Naphtha	do.	2,000	1,300	1,800	2,300 ^r	2,300 ^e
Petroleum coke	do.	50	50	10	8 ^r	8 ^e
Total	do.	24,000	12,000	13,000	15,000 ^r	15,000 ^e

^cEstimated. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through September 15, 2020. All data are reported unless otherwise noted. Totals, estimated data, and some reported data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, crude construction materials may have been produced, but available information was inadequate to make reliable estimates of output.

³Units of measure were converted to metric tons from cubic meters. Data are rounded to no more than two significant digits.

⁴Units of measure were converted to thousand 42-gallon barrels from metric tons. Data are rounded to no more than two significant digits.

TABLE 2
CUBA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e
Cement, hydraulic		Cementos Cienfuegos S.A.	Plant at Cienfuegos, Cienfuegos Province	1,500
Do.		Empresa Mixta Cementos Curazao N.V. (Grupo Empresarial de Cemento [GECEM] [Government, 100%])	Plant at Barrio Mujica, Mariel, Artemisa Province	1,100
Do.		Empresa de Cemento 26 de Julio (Grupo Empresarial de Cemento [GECEM] [Government, 100%])	Plant at Nuevitas, Camaguey Province	600
Do.		Empresa de Cemento Mártires de Artemisa (Grupo Empresarial de Cemento [GECEM] [Government, 100%])	Plant at Artemisa, Artemisa Province	600
Do.		Empresa de Cemento Siguaney (Grupo Empresarial de Cemento [GECEM] [Government, 100%])	Plant at Siguaney, Sancti Spiritus Province	700
Cobalt, mine, Co content		Moa Nickel S.A. (Government, 50%, and Sherritt International Corp., 50%)	Moa Bay Mine and processing plant, Moa, Holguin Province	4
Gypsum, mine		Empresa de Materiales de la Construcción de Ciego de Avila	Mine at Punta Alegre, Ciego de Avila Province	NA
Lead, mine, Pb content		Empresa Minera del Caribe S.A. (Emincar) (Geominera S.A., 51% [Government, 100%], and Trafigura Group Pte. Ltd., 49%)	Castellanos Mine and processing plant, Minas de Matahambre, Pinar del Rio Province	50
Natural gas, marketable	million cubic meters	Empresa de Perforación y Extracción de Petróleo del Centro (Government, 100%)	Oilfields at the northern coast between Havana and Cardenas, primarily Mayabeque Province	1,000
Do.	do.	Sherritt International Corp. (gross working-interest production in production-sharing contracts with the Government)	Puerto Escondido and Yumuri oilfields	NA
Nickel, mine, Ni content		Empresa Niquelífera Ernesto Che Guevara (Government, 100%)	Ernesto Che Guevara Mine and processing plant, Punta Gorda, Holguin Province	34
Do.		Moa Nickel S.A. (Government, 50%, and Sherritt International Corp., 50%)	Moa Bay Mine and processing plant, Moa, Holguin Province	37
Petroleum:				
Crude	thousand 42-gallon barrels	Empresa de Perforación y Extracción de Petróleo del Centro (Government, 100%)	Oilfields at the northern coast between Havana and Cardenas, primarily Mayabeque Province	10,000
Do.	do.	Sherritt International Corp. (gross working-interest production in production-sharing contracts with contracts with the Government)	Puerto Escondido and Yumuri oilfields	5,000
Refinery products	do.	Union Cuba-Petróleo (CUPET) (Government, 100%)	Camilo Cienfuegos refinery, Cienfuegos, Cienfuegos Province	23,700
Do.	do.	do.	Hermanos Díaz refinery, Santiago de Cuba, Santiago de Cuba Province	8,000
Do.	do.	do.	Ñico López refinery, City of Havana	16,000
Do.	do.	do.	Sergio Soto refinery, Cabaiguan, Sancti Spiritus Province	NA
Raw steel		Grupo Metalúrgico Acinox (Government, 100%), including: Empresa Siderurgica Jose Marti	Plant at Cotorro, La Havana Province	500
Do.		Camagüey	Plant at Las Tunas, Las Tunas Province	60

See footnotes at end of table.

TABLE 2—Continued
 CUBA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Sand, silica	Empresa de Materiales de la Construcción de Sancti Spiritus	Algaba quarry at Sancti Spiritus Province	50
Sulfuric acid	Moa Nickel S.A. (Government, 50%, and Sherritt International Corp., 50%)	Plant at Moa, Holguin Province	2
Zeolites	Empresa Geominera Oriente (Government, 100%)	San Andres plant, Holguin Province	75
Do.	Empresa Geominera Camaguey (Government, 100%)	El Chorillo plant, Camaguey Province	NA
Do.	Empresa Geominera Centro (Government, 100%)	Tasajeras plant, Villa Clara Province	25
Zinc, mine, Zn content	Empresa Minera del Caribe S.A. (Emincar) (Geominera S.A., 51% [Government, 100%], and Trafigura Group Pte. Ltd., 49%)	Castellanos Mine and processing plant, Minas de Matahambre, Pinar del Rio Province	100

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