



2020–2021 Minerals Yearbook

CUBA [ADVANCE RELEASE]

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THE MINERAL INDUSTRY OF CUBA

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Note: In this chapter, information for 2020 is followed by information for 2021.

Cuba's mineral industry continued to be dominated by the production of nickel and cobalt (as a byproduct of nickel processing). In 2020, the country was ranked fifth among the world's leading producers of cobalt and eighth (estimated) among the world's leading producers of zeolites. Other nonfuel mineral commodities produced in the country included bentonite, cement, feldspar, gypsum, kaolin, lead, lime, limestone, marble, salt, silica sand, raw steel, sulfuric acid, and zinc. 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 2020, 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 chromium, copper, gold, iron ore, 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 (Ministerio del Comercio Exterior y la Inversión Extranjera, 2020, p. 271; McRae, 2021, 2022; Shedd, 2021, 2022; Crangle, 2022).

Minerals in the National Economy

In 2020, Cuba's real gross domestic product (GDP) decreased by 10.9% compared with a decrease of 0.2% in 2019. During the year, Cuba's economic activity decreased owing to the effects of the coronavirus disease 2019 (COVID-19) pandemic. To contain the spread of COVID-19, the Government implemented such measures as border closures, quarantines, and the temporary suspension of nonessential economic activity throughout the country. In 2020, the industrial manufacturing sector (excluding the sugar industry) contributed 10% of the country's GDP, whereas the construction sector contributed 8%. The mining and quarrying sector made only a minor contribution of about 0.5% to the country's GDP. Employment in the mining and quarrying sector, which continued to account for less than 1% of the total employment in the country, increased to 22,300 workers in 2020 from 22,000 workers in 2019 (Economic Commission for Latin America and the Caribbean, 2021, p. 1; Oficina Nacional de Estadística e Información, 2022, p. 146, 149, 173).

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 of 2012) 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 Unión Cuba-Petróleo (CUPET) is responsible for exploring for, producing, refining, and marketing the country's petroleum and refinery products (Ministerio del Comercio Exterior y la Inversión Extranjera, 2020, p. 15, 221, 271).

Production

In 2020, the production of feldspar increased by 571%; calcareous sand, by 43%; silica sand, by 14%; marble, by 13%; and other unspecified crushed stone, by 11%. Among mineral fuels and related materials, increases in production included that of petroleum coke, by 267%; kerosene, by 256%; liquefied petroleum gas, by 80%; gasoline, by 47%; naphtha, by 40%; and fuel oil, by 18%. During the year, the production of cement, raw steel, zeolites, and asphalt decreased by about 28%, 20%, 14%, and 13%, respectively. 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 de Níquel Comandante Ernesto Che Guevara, and by Moa Nickel S.A., which was a joint venture between Sherritt International Corp. of Canada and the Government (50% each). Empresa Mixta Minera del Caribe Santa Lucía (Emincar), which was a joint venture between Government-owned Geominera S.A. (51%) and Trafigura Group Pte. Ltd. of Singapore (49%), continued to be the only producer of lead and zinc in the country. Petroleum refinery products were produced by CUPET at the Camilo Cienfuegos, the Hermanos Diaz, the Nico Lopez, 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 2020, the total value of Cuba's exports decreased to \$68.1 million¹ from \$82.5 million in 2019 and the total value of imports decreased to \$289.2 million from \$396.1 million in 2019. The decreases were mainly attributed to the imposed economic sanctions and trade embargo by the United States, the COVID-19 global pandemic, and the prevailing socioeconomic and political upheaval in Venezuela, although Venezuela continued to be one of Cuba's main trading partners.

¹Where necessary, values have been converted from Cuban pesos (CUP) to U.S. dollars (US\$) at an average rate of CUP25.00=US\$1.00 for 2020 and 2019.

During the year, mining products accounted for about 37% of Cuba's total exports. Canada continued to be Cuba's major export partner, receiving 27% of the country's total exports, by value, in 2020, followed by China (22%), Spain (8%), and Venezuela (7%). Venezuela supplied 15% of Cuba's total imports by value in 2020; however, imports from Venezuela have been greatly reduced over the years. In 2020, imports from Venezuela decreased by 40% compared with those in 2019 (U.S. Department of the Treasury, 2019a, b; Economic Commission for Latin America and the Caribbean, 2021, p. 4; Oficina Nacional de Estadística e Información, 2021, p. 196–198, 199–201, 203; 2022, p. 190–196).

Commodity Review

Metals

Cobalt and Nickel.—Moa Nickel continued to mine laterite ore by open pit methods and process it into mixed sulfides that contain 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. As of 2020, Moa Nickel's mined ore came from the Camarioca Norte, Camarioca Sur, Cantarrana, La Delta, Moa Occidental, Moa Oriental, Playa La Vaca-Zona Septentrional II, Santa Teresita, and Yagrumaje Oeste mining concessions, which together cover a total area of 12,242 hectares. Sherritt reported that, based on the current depletion rate, Moa Nickel's mining concessions were planned to be mined until at least 2034. As of December 31, Moa Nickel's total proven and probable mineral reserves were reported as 49.4 million metric tons (Mt) at average grades of 1.16% nickel and 0.13% cobalt. In 2020, total production of refined nickel and cobalt by Moa Nickel was 31,507 metric tons (t) and 3,370 t, respectively, compared with 33,108 t and 3,376 t respectively, in 2019. Sherritt reported that total production of refined nickel and cobalt from Moa Nickel was in line with its guidance for 2020, which was between 32,000 and 33,000 t of refined nickel and between 3,300 and 3,400 t of refined cobalt (Sherritt International Corp., 2020, p. 10; 2021a, p. 7, 9, 16, 21).

Iron and Steel.—During the year, Government-owned Grupo Empresarial de la Industria Sidero Mecánica (GESIME) continued with its modernization and expansion program at its steel plant, Empresa Siderúrgica Jose Martí, also known as Antillana de Acero. The Empresa Siderúrgica Jose Martí, located in Cotorro, La Havana Province, continued to be the leading raw steel producer in the country. GESIME expected to complete the refurbishing of the plant by 2025 and to increase its raw steel production capacity to 250,000 metric tons per year (t/yr) from 170,000 t/yr. The company also owned Empresa de Aceros Inoxidables de las Tunas (ACINOX), located in Las Tunas, Las Tunas Province (table 2; Ministerio de la Construcción, 2021; Ministerio de Industrias, 2021; Organisation for Economic Co-operation and Development, 2021, p. 37).

Lead and Zinc.—Emincar, which began operations at the Castellanos lead and zinc mine in 2017, was the first new mining project in the country in more than 20 years. The Castellanos Mine, 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 t/yr of zinc concentrate and 50,000 t/yr of lead concentrate. In 2020, Emincar reported that it had reduced the number of onsite personnel to mitigate the spread of COVID-19, which decreased the efficiency of operations at the Castellanos Mine. Maintenance work at the Castellanos Mine was also affected by supply-chain disruptions caused by the COVID-19 pandemic, which created delays in the delivery of equipment and spare parts; however, despite these issues, the Castellanos's processing plant treated about 1.1 Mt of ore in 2020 (Trafigura Group Pte. Ltd., 2020, p. 26).

Industrial Minerals

Cement.—Government-owned Grupo Empresarial de Cemento (GECEM), which owned the Empresa de Cemento 26 de Julio, the Empresa de Cemento Siguaney, and the Empresa de Cemento Martires de Artemisa plants, continued with its plans to increase cement production in the country. In 2018, GECEM announced 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. During the year, the Empresa de Cemento Siguaney, which reduced operations at its cement plant while maintenance work was carried out and completed in 2019, produced about 90,000 t of cement; however, in yearend 2020, cement production at Empresa de Cemento Siguaney's plant was temporarily suspended owing to technical issues. Meanwhile, GECEM continued its modernization work at the Empresa de Cemento 26 de Julio plant, which was expected to be completed in 2021. During the year, construction works at GECEM's new cement plant, located in Santiago de Cuba, were underway. The new plant, which would have the capacity to produce about 1.2 million metric tons per year (Mt/yr) of cement, was planned to be completed by 2022 (Romero, 2018; Ruiz, 2020; Radio Nuevitas, 2020; Global Cement News, 2021a, b).

Mineral Fuels

Petroleum and Natural gas.—Cuba continued its efforts to lessen its reliance on imports. According to information reported in the Portfolio of Opportunities for Foreign Investment 2020–2021, the country was offering joint venture investment opportunities in onshore and offshore petroleum extraction 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 (Ministerio del Comercio Exterior y la Inversión Extranjera, 2020, p. 72–74).

Sherritt also held 100% working interest in production-sharing contracts (PSCs) with CUPET, including the Puerto Escondido-Yumuri oilfields, which were in the production phase. In 2020, Sherritt's gross working-interest crude petroleum production decreased by 29% to 2,947 barrels per day (bbl/d) from 4,175 bbl/d in 2019. The decrease was mainly attributed to natural reservoir declines at the Puerto Escondido-Yumuri oilfields. The company reported that the Escondido and Yumuri PSCs

were set to expire in March 2021. As a result, no crude petroleum production on a gross working-interest basis was projected for the next year. Melbana Energy Ltd. of Australia continued exploration work at Block 9 PSC, which is located on the north coast of Cuba about 140 kilometers east of Havana. CUPET awarded Melbana Energy a 100% interest in Block 9 in 2015; however, in 2019, Melbana Energy entered into a binding heads of agreement with Sonangol E.P. of Angola for the acquisition of a 70% participating interest in Block 9 in return for agreeing to fund 85% of a two-well exploration drilling program and repaying Melbana Energy's past costs. In May, Melbana Energy entered into a farm-in agreement with Sonangol, and as a result, the company's ownership interest in Block 9 was reduced to 30% interest. As part of the agreement, Melbana Energy would remain the operator of the two-well drilling campaign program. The company reported that identified exploration potential in the block was estimated to be about 14.8 billion barrels of oil-in-place with prospective resources of 676 million barrels (Sherritt International Corp., 2020, p. 10; 2021a, p. 9, 23; Melbana Energy Ltd., 2020, p. 2, 3, 50; 2021, p. 1).

MINERAL INDUSTRY HIGHLIGHTS IN 2021

In 2021, Cuba's real GDP increased by about 1.3% compared with that in 2020. The GDP growth was attributed in part to the opening of Cuba to international tourism in late 2021. The industrial manufacturing sector (excluding the sugar industry) and the construction sector contributed about 9% each to the total GDP, whereas the mining and quarrying sector continued to make only a minor contribution of 0.4%. However, Cuba's economy continued to be affected by the COVID-19 pandemic, including a strong surge in COVID-19 infections, as well as fuel shortages. Fuel shortages affected most of Cuba's economic sectors, including the construction and mining and quarrying sectors. Employment in the mining and quarrying sector decreased by about 1.8% to 21,900 workers in 2021. During the year, 357 enterprises operated in the industrial manufacturing sector (excluding the sugar industry) and 19 enterprises operated in the mining and quarrying sector. In 2021, the total value of Cuba's exports increased to about \$78.6 million.² During the year, mining products accounted for about 40% of the country's total exports. Major recipients of Cuba's exports were, in order of export value, Canada (which received 31% of Cuba's exports), China (21%), Spain (8%), and Venezuela (5%). The total value of the country's imports increased to \$337.2 million in 2021. Cuba's major import partners were, in order of import value, Venezuela (which supplied about 15% of Cuba's total imports), China (12%), Spain (10%), and Russia (7%) (Economic Commission for Latin America and the Caribbean, 2022b, p. 1; Oficina Nacional de Estadística e Información, 2022, p. 146, 149, 173, 190–196).

In 2021, the production of mineral commodities, such as feldspar, raw steel, and marble increased by about 26%, 24%, and 17%, respectively. Mineral commodities for which output

decreased by more than 10% were led by volcanic ash (54%), calcareous sand (45%), silica sand (35%), other unspecified crusted stone (33%), zinc (25%), cement, lime, and limestone (20% each), zeolites (19%), lead (17%), gypsum (15%), and sulfuric acid (10%). Data on mineral production are in table 1.

Policies put in place in response to the COVID-19 pandemic affected operations at the Castellanos Mine and led to decreases in lead and zinc output. Moa Nickel produced 31,184 t of refined nickel and 3,526 t of refined cobalt for a combined total production of 34,710 t. As of December 31, total proven and probable reserves at Moa Nickel were reported as 48.5 Mt at average grades of 1.16% nickel and 0.13% cobalt. Sherritt reported that an expansion plan for its Moa Nickel operations was underway. The plan included the increase of Moa Nickel's combined nickel and cobalt production between 15% and 20% from the combined 34,710 t produced in 2021 as well as to extend the mine's life beyond 2040. The joint venture planned to extend the mine's life by applying an economic cutoff grade to potentially enable conversion of subeconomic mineral resources into mineral reserves. The program to evaluate the full implementation of the economic cutoff grade program was underway in 2021 and was expected to be completed in the fourth quarter of 2022. Moa Nickel also completed a feasibility study for a new slurry preparation plant, which was expected to be completed by early 2024. Sherritt reported that Moa Nickel planned to produce between 32,000 and 34,000 t of refined nickel and between 3,400 and 3,700 t of refined cobalt in 2022. Empresa Mixta Cementos Cienfuegos (Cementos Cienfuegos), which continued to be Cuba's leading cement producer, was affected by fuel shortages. The company introduced the use of scrap tires and used oils as alternative fuels; however, these were unable to meet the entire fuel demand of the plant. As a result, Cementos Cienfuegos was temporarily closed between January and May 2021. Modernization and expansion work at the Empresa Siderurgica Jose Martí plant were underway. In April, GECEM resumed operations at the Empresa de Cemento Siguaney plant, and by yearend, the cement plant had produced about 43,000 t of the 65,000 t planned for 2021. GECEM also continued construction work at a new cement plant in Santiago de Cuba as well as modernization work at the Empresa de Cemento 26 de Julio plant (Ferrán, 2021; Rodríguez, 2021a, b; Trafigura Group Pte. Ltd., 2021, p. 33; Sherritt International Corp., 2021b; 2022, p. 8, 19–20, 68).

In 2021, Sherritt also held 100% working interests in PSCs with CUPET for Block 6A, Block 8A, and Block 10, which were in the exploration phase. Block 6A and Block 10 were located on the northern coast of Cuba and Block 8A was in central Cuba. Melbana Energy, as the operator, began its two-well exploration drilling program in Block 9. The drilling program, at an estimated cost of about \$30 million, included the Alameda-1 and the Zapato-1 exploration wells. On September 13, the company began to drill the first of the two wells—Alameda-1, which was located in the western part of Block 9. The Alameda-1 well, with a total measured depth of about 4,000 meters, was designed to allow the well to penetrate three independent exploration objectives. The company expected to continue the drilling of the Alameda-1 well and reach the total planned depth in the first quarter of 2022. Following the completion of the

²Where necessary, values have been converted from Cuban pesos (CUP) to U.S. dollars (US\$) at the annual average exchange rate of CUP25.00=US\$1.00 for 2021.

Alameda-1 well, Melbana Energy planned to begin the drilling the Zapato-1 exploration well (Melbana Energy Ltd., 2021, p. 4, 6; Sherritt International Corp., 2022, p. 20–21).

Outlook

Cuba's GDP was forecasted to increase by about 3.0% in 2022 (Economic Commission for Latin America and the Caribbean, 2022a). The country's economic outlook is attributable in part to the opening of the country's borders to international tourism, which Cuba continues to rely on as a source of employment and Government revenue. The country's mining and quarrying sector is expected to continue to be a minor contributor to Cuba's economy and to be dominated by the production of nickel and cobalt. 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 (Economic Commission for Latin America and the Caribbean, 2022b, p. 3).

References Cited

- Crangle, R.D., Jr., 2022, Zeolites (natural): U.S. Geological Survey Mineral Commodity Summaries 2022, p. 190–191.
- Economic Commission for Latin America and the Caribbean, 2021, Economic survey of Latin America and the Caribbean—Cuba: Economic Commission for Latin America and the Caribbean, 7 p. (Accessed February 13, 2025, at https://repositorio.cepal.org/bitstream/handle/11362/46071/19/ES2020_Cuba_en.pdf.)
- Economic Commission for Latin America and the Caribbean, 2022a, Latin America and the Caribbean—New GDP growth projections for 2022: Economic Commission for Latin America and the Caribbean, 3 p. (Accessed December 13, 2022, at https://www.cepal.org/sites/default/files/pr/files/table_press_gdp_economicsurvey2022-eng.pdf.)
- Economic Commission for Latin America and the Caribbean, 2022b, Preliminary overview of the economies of Latin America and the Caribbean—Cuba: Economic Commission for Latin America and the Caribbean, January, 3 p. (Accessed April 16, 2024, at <https://repositorio.cepal.org/server/api/core/bitstreams/e5d9a28d-5531-40da-a7f9-d98d6fb586cb/content>.)
- Ferrán, R.B., 2021, Reinicia producción fábrica de cemento de Cienfuegos [Cienfuegos cement factory restarts production]: Trabajadores [Havana, Cuba], May 26. (Accessed June 29, 2022, at <https://www.trabajadores.cu/20210526/reinicia-produccion-fabrica-de-cemento-de-cienfuegos/>.) [In Spanish.]
- Global Cement News, 2021a, Corporacion Cementos Cubanos resumes production of grey cement at Siganey plant: Pro Global Media Ltd., April 15. (Accessed December 2, 2021, at <https://www.globalcement.com/news/item/12269-corporacion-cementos-cubanos-resumes-production-of-grey-cement-at-siganey-plant>.)
- Global Cement News, 2021b, Siganey cement plant's production exceeds 90,000t in 2020: Pro Global Media Ltd., January 13. (Accessed December 2, 2021, at <https://www.globalcement.com/news/item/11836-siganey-cement-plant-s-production-exceeds-90-000t-in-2020>.)
- McRae, M.E., 2021, Nickel: U.S. Geological Survey Mineral Commodity Summaries 2021, p. 112–113.
- McRae, M.E., 2022, Nickel: U.S. Geological Survey Mineral Commodity Summaries 2022, p. 114–115.
- Melbana Energy Ltd., 2020, Annual report 2020: Melbourne, Victoria, Australia, Melbana Energy Ltd., 60 p. (Accessed July 22, 2022, at <https://www.melbana.com/site/cpfile/b9c071d-7a25-49f5-a526-81db604b2e25/AnnualReport2020.pdf>.)
- Melbana Energy Ltd., 2021, Cuba block 9 production sharing contract: Sydney, New South Wales, Australia, Melbana Energy Ltd., 6 p. (Accessed July 21, 2022, at <https://www.melbana.com/site/cpfile/8c59ca95-7db5-49ea-971f-9a78d86f58e7/20211213CubaFlyerBlock9.pdf>.)
- Ministerio del Comercio Exterior y la Inversión Extranjera, 2020, Cuba—Cartera de oportunidades de inversión extranjera 2020–2021 [Portfolio of opportunities for foreign investment 2020–2021]: Havana, Cuba, Ministry of Foreign Trade and Investments, 323 p. [In Spanish.]
- Ministerio de la Construcción, 2021, Antillana de Acero, orgullo de la aceria cubana [Antillana de Acero, pride of Cuban steelworks]: Havana, Cuba, Ministerio de la Construcción, April 26. [In Spanish.]
- Ministerio de Industrias, 2021, Grupo Empresarial de la Industria Sidero Mecánica—Desarrollo con soluciones propias [Business group of the mechanical steel industry—Development with our own solutions]: Havana, Cuba, Ministerio de Industrias, January 27. (Accessed December 3, 2021, at <https://www.mindus.gob.cu/es/noticias/grupo-empresarial-de-la-industria-sidero-mecanica-desarrollo-con-soluciones-propias>.) [In Spanish.]
- Oficina Nacional de Estadística e Información, 2021, Anuario estadístico de Cuba 2020 [Statistical yearbook of Cuba 2020]: Havana, Cuba, Oficina Nacional de Estadística e Información, 449 p. (Accessed December 13, 2022, at http://www.onei.gob.cu/sites/default/files/anuario_estadistico_de_cuba_2020_.pdf.) [In Spanish.]
- Oficina Nacional de Estadística e Información, 2022, Anuario estadístico de Cuba 2021 [Statistical yearbook of Cuba 2021]: Havana, Cuba, Oficina Nacional de Estadística e Información, 443 p. (Accessed September 12, 2023, at https://www.onei.gob.cu/sites/default/files/publicaciones/2023-04/aec-2021-edicion-2022_compressed.pdf.) [In Spanish.]
- Organisation for Economic Co-operation and Development, 2021, Latest development in steelmaking capacity: Organisation for Economic Co-operation and Development, 67 p. (Accessed December 6, 2021, at <https://www.oecd.org/industry/ind/latest-developments-in-steelmaking-capacity-2021.pdf>.)
- Radio Nuevitás, 2020, Producción de cemento en Nuevitás aliviara a la zona oriental cubana [Cement production in Nuevitás will relieve the eastern zone of Cuba]: Radio Nuevitás, February 20. [In Spanish.]
- Rodríguez, Carmen, 2021a, Fábrica de cemento Siganey sigue en pie [Siganey cement factory still standing]: Escambray, December 28. (Accessed June 28, 2022, at <http://www.escambray.cu/2021/fabrica-de-cemento-siganey-sigue-en-pie/>.) [In Spanish.]
- Rodríguez, Carmen, 2021b, Restablece Siganey producción de cemento gris [Siganey restores gray cement production]: Escambray, April 12. (Accessed June 28, 2022, at <http://www.escambray.cu/2021/restablece-empresa-de-cemento-siganey-produccion-de-cemento-gris/>.) [In Spanish.]
- Romero, L.M., 2018, Comenzara Cuba este año modernización de fabricas de cemento: [Cuba will begin this year modernization of cement factories]: Havana, Cuba, Agencia Cubana de Noticias, March 1. (Accessed December 2, 2021, at <http://www.acn.cu/economia/32325-comenzara-cuba-este-ano-modernizacion-de-fabricas-de-cemento>.) [In Spanish.]
- Ruiz, B.B., 2020, Construcción de hoy, cemento de mañana [Today's construction, cement for tomorrow]: Trabajadores [Havana, Cuba], November 6. (Accessed December 2, 2021, at <http://www.trabajadores.cu/20201106/construccion-de-hoy-cemento-de-manana/>.) [In Spanish.]
- Shedd, K.B., 2021, Cobalt: U.S. Geological Survey Mineral Commodity Summaries 2020, p. 50–51.
- Shedd, K.B., 2022, Cobalt: U.S. Geological Survey Mineral Commodity Summaries 2022, p. 52–53.
- Sherritt International Corp., 2020, 2019 annual information form: Toronto, Ontario, Canada, Sherritt International Corp., March 19, 105 p. (Accessed November 18, 2021, at [https://s2.q4cdn.com/343762060/files/doc_financials/Annual-Report/2019/2019-AIF-\(March-20-2020\).pdf](https://s2.q4cdn.com/343762060/files/doc_financials/Annual-Report/2019/2019-AIF-(March-20-2020).pdf).)
- Sherritt International Corp., 2021a, 2020 annual information form: Toronto, Ontario, Canada, Sherritt International Corp., March 15, 77 p. (Accessed November 18, 2021, at https://s2.q4cdn.com/343762060/files/doc_financials/2020/ar/Sherritt-2020-AIF.pdf.)
- Sherritt International Corp., 2021b, Guidance: Toronto, Ontario, Canada, Sherritt International Corp. (Accessed June 27, 2022, at <https://www.sherritt.com/English/Investor-Relations/Guidance/default.aspx>.)
- Sherritt International Corp., 2022, 2021 annual information form: Toronto, Ontario, Canada, Sherritt International Corp., March 24, 73 p. (Accessed June 27, 2022, at [https://s2.q4cdn.com/343762060/files/doc_financials/2021/ar/SEDAR_Sherritt-AIF_v1-\(final\).pdf](https://s2.q4cdn.com/343762060/files/doc_financials/2021/ar/SEDAR_Sherritt-AIF_v1-(final).pdf).)
- Trafigura Group Pte. Ltd., 2020, 2020 annual report: Singapore, Trafigura Group Pte. Ltd., December, 108 p. (Accessed November 17, 2021, at <https://www.trafigura.com/news-and-insights/publications/financials/2020/2020-trafigura-annual-report/>.)
- Trafigura Group Pte. Ltd., 2021, 2021 annual report: Singapore, Trafigura Group Pte. Ltd., December 7, 128 p. (Accessed December 13, 2022, at <https://www.trafigura.com/brochure/2021-trafigura-annual-report/>.)
- U.S. Department of the Treasury, 2019a, Treasury further targets entities and vessels moving Venezuelans oil to Cuba: Washington, DC, U.S. Department of the Treasury press release, September 24. (Accessed December 1, 2021, at <https://home.treasury.gov/news/press-releases/sm784>.)
- U.S. Department of the Treasury, 2019b, Treasury targets Cuban support for the illegitimate Venezuelan regime: Washington, DC, U.S. Department of the Treasury press release, July 3. (Accessed December 1, 2021, at <https://home.treasury.gov/news/press-releases/sm722>.)

TABLE 1
CUBA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2017	2018	2019	2020	2021
METALS					
Cobalt, mine, Co content ^c	3,900	3,500	3,800 ^r	3,800	3,900
Iron and steel, raw steel	210,100	225,000 ^r	230,000 ^r	185,000	230,000
Lead, mine, Pb content ^c	3,000 ^r	24,000 ^r	32,000 ^r	30,000	25,000
Nickel, Ni content:					
Mine, laterite ore	52,800	52,200	48,900 ^r	48,000	48,000
Intermediate, nickel cobalt sulfide ^c	35,200	34,800	37,000	35,000	33,000
Zinc, mine, Zn content ^c	5,000	45,000	60,000	60,000	45,000
INDUSTRIAL MINERALS					
Abrasives, volcanic ash	98,300	93,300	38,800 ^r	38,800	17,900
Cement, hydraulic thousand metric tons	1,431	1,590	1,407	1,015	817
Clay:					
Bentonite	589	630	504 ^r	486	517
Kaolin	1,500	2,700	2,100 ^r	2,000	1,400
Feldspar, mine	3,600	3,000	2,100 ^r	14,100	17,800
Gypsum, mine thousand metric tons	85	100	66 ^r	62	53
Lime	47,600	50,000	40,500	36,900	29,500
Salt thousand metric tons	246	193	210 ^r	226	205
Sand and gravel, industrial, silica	21,700 ^r	23,200 ^r	19,700 ^r	22,500	14,600
Stone, sand and gravel, construction:					
Sand and gravel, sand, calcareous ³ thousand metric tons	2,600	2,800	2,300	3,300	1,800
Stone:					
Crushed:					
Limestone do.	1,900	2,100	800 ^r	500	400
Other, unspecified ³ do.	6,300	6,900	5,400	6,000	4,000
Other, size and shape unspecified, marble ³	19,000	21,000	16,000 ^r	18,000	21,000
Sulfur, compounds, sulfuric acid thousand metric tons	913	945	969	952	853
Zeolites	56,500	52,600	120,800 ^r	103,300	83,400
MINERAL FUELS AND RELATED MATERIALS					
Natural gas, marketable thousand cubic meters	1,050,800	970,100	951,100 ^r	894,800	651,900
Petroleum:					
Crude thousand 42-gallon barrels	18,000	18,000	17,000 ^r	17,000	17,000 ^e
Refinery: ⁴					
Asphalt do.	350	380	230 ^r	200	NA
Fuel oil do.	9,400 ^r	9,800 ^r	5,700 ^r	6,700	NA
Gasoline, motor do.	1,200	1,800	1,700 ^r	2,500	NA
Kerosene do.	20	50	9 ^r	32	NA
Liquefied petroleum gas do.	600	350	250 ^r	450	NA
Lubricants do.	350	360	230 ^r	250	NA
Naphtha ⁵ do.	1,800	2,300	860 ^r	1,200	NA
Petroleum coke do.	10	8	6 ^r	22	NA
Total do.	13,700 ^r	15,000	8,990 ^r	11,400	NA

^eEstimated. ^rRevised. do. Ditto. NA Not available.

¹Table includes data available through July 26, 2022. All data are reported unless otherwise noted: totals may include estimated data. 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, nickel ammoniacal liquor precipitate and unspecified, nickel oxide sinter, and 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.

⁵Data may include production of solvents.

TABLE 2
CUBA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Cement, hydraulic		Empresa Mixta Cementos Cienfuegos S.A.	Plant at Cienfuegos, Cienfuegos Province	1,500
Do.		Empresa Mixta Cementos Curazao N.V.	Plant at Barrio Mujica, Mariel, Artemisa Province	1,000
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	400
Do.		Empresa de Cemento Siguaney (Grupo Empresarial de Cemento [GECEM] [Government, 100%])	Plant at Siguaney, Sancti Spiritus Province	150
Cobalt, mine, Co content		Empresa de Níquel Comandante Ernesto Che Guevara (Government, 100%)	Punta Gorda Mine Moa, Holguin Province	NA
Do.	metric tons	do.	Punta Gorda Smelter Moa, Holguin Province	600
Do.		Moa Nickel S.A. (Government, 50%, and Sherritt International Corp., 50%)	Mine and processing plant at ¹ 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 Mixta Minera del Caribe Santa Lucía (Emincarc) (Geominera S.A. [Government, 100%], 51%, and Trafigura Group Pte. Ltd., 49%)	Castellanos Mine and processing plant, Minas de Matahambre, Pinar del Rio Province	50
Natural gas, marketab	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 ² Oilfields	NA
Nickel, mine, Ni content		Empresa de Níquel Comandante Ernesto Che Guevara (Government, 100%)	Punta Gorda Mine Moa, Holguin Province	NA
Do.		do.	Punta Gorda Smelter Moa, Holguin Province	31
Do.		Moa Nickel S.A. (Government, 50%, and Sherritt International Corp., 50%)	Mine and processing plant at Moa, Holguin Province	35
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 ² 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

See footnotes at end of table.

TABLE 2—Continued
CUBA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Raw steel	Empresa Siderurgica Jose Marti (Grupo Empresarial de la Industria Sidero Mecanica (GESIME) [Government, 100%])	Plant at Cotorro, La Havana Province	170
Do.	Empresa de Aceros Inoxidables de las Tunas (ACINOX) (Grupo Empresarial de la Industria Sidero Mecanica (GESIME) [Government, 100%])	Plant at Las Tunas, Las Tunas Province	60
Sand, silica	Empresa de Materiales de la Construcción de Sancti Spiritus	Algaba Quarry, 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 Camaguey (Government, 100%)	El Chorillo plant, Camaguey Province	75
Do.	Empresa Geominera del Centro (Government, 100%)	Tasajeras plant, Villa Clara Province	75
Do.	Empresa Geominera Oriente (Government, 100%)	San Andres plant, Holguin Province	75
Zinc, mine, Zn content	Empresa Minera del Caribe S.A. (Emincar) (Geominera S.A [Government, 100%], 51%, 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.

¹Included the Camarioca Norte, Camarioca Sur, Cantarrana, La Delta, Moa Occidental, Moa Oriental, Playa La Vaca-Zona Septentrional II, Santa Teresita, and Yagrumaje Oeste mining concessions.

²Crude petroleum and natural gas production ceased on March 20, 2021, after the term of Puerto Escondido and Yumuri production-sharing contract expired on March 19, 2021.