



2015 Minerals Yearbook

SERBIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF SERBIA

By Karine M. Renaud

Serbia has industrial mineral resources, including bentonite, borate, feldspar, kaolin, limestone, magnesite, mica, and wollastonite; and metallic mineral resources, such as antimony, chromite, cobalt, copper, gold, iron, lead, molybdenum, nickel, platinum-group elements, tin, tungsten, uranium, and zinc. The country also has mineral fuel resources and related materials. In 2015, Serbia produced metals, such as aluminum, copper, crude steel, gold, lead, pig iron, platinum-group metals, selenium, silver, and zinc, and industrial minerals, which included cement, chalk, silica sand, gypsum, kaolin, lime, limestone, marble, salt, and sand and gravel. The country also produced mineral fuels and related materials, including coal, natural gas, petroleum, and petroleum refinery products (table 1; Monthel and others, 2002, p. 5–6).

Minerals in the National Economy

In 2015, Serbia's real gross domestic product (GDP) increased by 0.7% compared with a decrease of 1.8% in 2014. The nominal GDP was \$37.16 billion. Serbia's industrial production increased in value by 8.3% compared with a decrease of 6.5% in 2014. Serbia's mining and quarrying production decreased in value by 10.6% in 2014 compared with an increase of 16.6% in 2014. Manufacturing production increased in value by 5.3% compared with a decrease of 1.4% in 2014 (Serbia Energy, 2015f; World Bank, The, 2015; International Monetary Fund, 2016, p. 232; Statistical Office of the Republic of Serbia, 2016a, p. 258; 2016c, p. 258).

Government Policies and Programs

In 2015, the Law on Mining and Geological Explorations continued to be under revision. The law stipulates the establishment of the Geological Institute of Serbia and formulates a strategy of mineral resources management. Under the law, entities performing mining activities in Serbia are required to pay fees for the use of mineral and geothermal resources, as follows: 7% of the revenue from hydrocarbons in a liquid and gas state (crude petroleum and natural gas) and other natural gases; 5% of the net revenue from smelters (the revenues from the sale of final product); 5% of the revenue from nonmetallic raw materials; 3% of the revenue from all types of coal and oil shale; 2% of the revenue from geothermal energy (Ministry of Mines and Energy, 2014, p. 77; Jelenković, 2016, p. 4, 6–7; KPMG d.o.o., 2016, p. 10).

Production

In 2015, production of hot-rolled steel products was estimated to have increased by 160%; smelter copper, by 67%; pig iron and crude steel, by 64% each; refined copper (primary) and palladium, by 35% each; platinum, by 33%; coal (lignite), and sand and gravel, excluding glass sand, by 27% each; marble and granite blocks, by 20%; and limestone, gypsum, and chalk, by

10%. Production of silica sand decreased by 77%; refined gold, by 52%; mine output of lead (Pb content) and zinc (Zn content), by 35% each; mine output of silver (Ag content), by 26%; nitrogen (N content of ammonia), by 18%; selenium, by 13%; lime and refined petroleum products, by 12% each; and crude petroleum, by 8%. Data on mineral production are in table 1.

Structure of the Mineral Industry

In 2015, Reservoir Minerals Inc. established a joint-venture agreement with Freeport McMoRan Exploration Corp. (FMEC) of the United States for the Timok gold project. Reservoir Minerals held 45% of the Timok project and FMEC held 55% through its subsidiary Rakita d.o.o. In 2015, mining and quarrying in Serbia employed 22,386 workers, of which 13,099 were employed in the mining of coal and lignite, 773 in the extraction of crude petroleum and natural gas, 4,036 in the mining of metal ores, 3,296 in other mining and quarrying, and 1,182 in mining support service activities. Manufacturing employed 380,336 employees in 2015, which included 1,761 employed in the manufacture of coke and refined petroleum products and 12,542 employed in the manufacture of basic metals (Marketwired, 2015a; Serbia Energy, 2015d; Statistical Office of the Republic of Serbia, 2016c, p. 61–62, 66). Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2015, the total value of exports was about \$13.4 billion compared with about \$14.8 billion (revised) in 2014. The export of manufactured goods accounted for 21.4% of total exports; raw materials, except fuels, 3.4%; and mineral fuels and lubricants, 2.8%. Serbia's main export partners were Italy (which received 16.2% of Serbia's exports), Germany (12.5%), Bosnia and Herzegovina (8.8%), Romania (5.6%), Russia (5.4%), and Montenegro (5.1%) (Statistical Office of the Republic of Serbia, 2016b, p. 313, 320).

The total value of imports in 2015 was about \$18.2 billion compared with \$20.6 billion in 2014. Imports of manufactured goods accounted for 18.1% of total imports; mineral fuels and lubricants, 11.5%; and raw materials, except fuels, 4.1%. Serbia's main import partners were Germany (which supplied 12.4% of Serbia's imports), Italy (10.6%), Russia (9.6%), and China (8.5%) (Statistical Office of the Republic of Serbia, 2016b, p. 314, 320).

Commodity Review

Metals

Copper and Gold.—In 2015, despite the difficulties resulting from low global prices for copper and gold, RTB Bor produced 44,646 metric tons (t) of refined copper, 55,000 t of copper smelter output, 628 kilograms (kg) of gold (refined), 5,470 kg

of silver, 14,950 kg of selenium, 31 kg of palladium, and 4 kg of platinum. In November 2015, a new refinery and smelter started operating at RTB Bor with a production capacity of 80,000 metric tons per year of copper anodes. In 2015, RTB Bor started to mine a new section at the Majdanpek Mine—the Dolovi 1 section. To enhance production at the Jama Mine, the company was expecting to start excavation at ore bodies “T3” and “D” in 2016. The reserves of T3 were estimated to be 4.3 million metric tons (Mt) of ore grading 0.66% copper, 0.31 gram per metric ton (g/t) gold, and 1.67 g/t silver. RTB Bor also planned to continue mining at the Cerovo Mine by starting mining activities at the new surface mine (Cerovo 2) in 2016 (table 1; Serbia Energy, 2013; Kolektiv, 2015a, p. 2; 2015b, p. 4; 2016, p. 3, 9; Rudarsko Topionicki Bazen Bor, 2015).

In 2014, Dundee Precious Metals Inc. of Canada announced that it was acquiring a 50.1% share in Avala Resources Ltd. of Canada (Avala) in Serbia; the acquisition was expected to be completed in 2016. In 2015, Avala agreed to form a joint venture with Rio Tinto plc of the United Kingdom on the Lenovac project; Rio Tinto would hold 75% interest in the Lenovac project and Avala would hold the remaining 25%. Avala started exploration on the Lenovac project in 2015. Avala had acquired the Timok gold project from Dundee Precious Metals in 2010 through its subsidiary Avala Resources d.o.o.; the project was located in east-central Serbia about 270 kilometers (km) southeast of the capital city of Belgrade and to the west of the Cretaceous Timok magmatic complex. The Timok gold project, which had a total area of 570 square kilometers, hosts the Bigar Hill, the Korkan, the Korkan East, and the Kraku Pester deposits and comprises the following seven exploration areas: Bigar Istok, Blizna, Breza Malinik, Goli Vrh, Lenovac, Potoj Čuka Tisnica, and Tilva Toma. As of May 2014, the inferred resources for the Bigar Hill, the Korkan, and the Kraku Pester deposits, which are located within the Potoj Čuka Tisnica exploration area, were estimated to be 38 Mt at an average grade of 1.3 g/t gold and to contain 47,000 kg of gold. In 2015, Avala completed geologic, geochemical, and geophysical datasets as well as trenching and channel sampling at Bigar Istok, which hosts part of the Timok gold project, to extend the existing resources at the Timok gold project. At the end of 2015, Avala started a drilling program at the Bigar Istok deposit (Marketwired, 2012, 2014, 2015a; Serbia Energy, 2015a; Dundee Precious Metals Inc., 2016, p. 2, 43).

In 2014, Reservoir Minerals released an estimate of the inferred resources (NI 43–101 compliant) at the newly discovered Cukari Peki copper-gold deposit, which is located in eastern Serbia in the Bretovac-Metovnica exploration license area. The inferred resources were estimated to be 65.3 Mt at grades of 2.6% copper and 1.5 g/t gold and to contain 1.7 Mt of copper and 96,400 kg of gold. In 2015, Reservoir Minerals conducted a diamond-drilling program at the Cikaru Peki deposit (SRK Consulting (UK) Ltd., 2014, p. v; Marketwired, 2015b; Reservoir Minerals, 2015, p. 5).

Iron and Steel.—In 2015, the Government of Serbia awarded HPK Engineering a.s. of Denmark a 3-year management and consulting contract for the Zelezara Smederevo d.o.o. crude steel plant. As a part of the contract, HPK Engineering was expected to invest \$20 million in the Zelezara plant, to retain

5,000 employees, and to increase production at the plant. In 2015, Hebei Iron and Steel Group Co. Ltd. of China expressed interest in acquiring the Zelezara plant, proposing to invest \$320 million [300 million euros (EUR)]¹ (eKapija, 2015; Ilić, 2015; InSerbia Network Foundation, 2015; Thomson Reuters, 2015; Williams, 2015).

Lead and Zinc.—In 2015, Mineco Group of the United Kingdom invested \$11 million in Bosil Metal d.o.o. to conduct exploration for lead and zinc in the Bosilegrad municipality. The exploration project was expected to be completed by March 2016. The company planned to start preparation for a feasibility study once the exploration is complete (Serbia Energy, 2015c).

In 2015, production at the Veliki Majdan lead and zinc mine increased despite the flooding that caused interruptions in mining. Production of lead and zinc concentrates increased by 24%. In 2015, 47,000 t of ore was mined and 2,562 t of lead concentrate and 3,582 t of zinc concentrate were produced. The Veliki Majdan Mine, which is located in Ljubovija municipality, was owned by Mineco Ltd. of the United Kingdom and employed 800 people (Serbia Energy, 2015b, c).

Industrial Minerals

Lithium and Boron.—Rio Tinto plc held 100% interest in the Jadar lithium-borate project through its wholly owned subsidiary Rio Sava Exploration d.o.o.; the project was located about 100 km from Belgrade in western Serbia. As of yearend 2013, the total mineral resources at Jadar were estimated to be 118 Mt at average grades of 1.8% lithium oxide and 13.1% boron oxide, of which inferred resources of borates were estimated to be 18 Mt. In 2015, a prefeasibility study was at the final stage. Rio Tinto planned to submit its study on reserves to the Ministry of Energy at the beginning of 2017 and to start mining if and when the Ministry of Energy accepts the study (Rio Tinto plc, 2014, p. 1–5; 2016; Serbia Energy, 2015e).

Erin Ventures Inc. of Canada held 100% interest in the Piskanja lacustrine-type boron deposit through its subsidiary Balkan Gold d.o.o.; the deposit is located 250 km south of Belgrade within the Jarandol basin in southern Serbia. The Jarandol basin forms the eastern part of the Gradac-Baljevac graben, which is located in the Varder Zone. Indicated mineral resources were estimated to be 5.6 Mt at an average grade of 30.8% boron trioxide (B₂O₃) with a cutoff grade of 12% B₂O₃, and inferred mineral resources were estimated to be 6.2 Mt at an average grade of 28.8% B₂O₃ with a cutoff grade of 12% B₂O₃. In 2015, Erin Ventures completed a drilling program in the Piskanja boron project and assayed the results. The company expected to begin a feasibility study in the near future (SRK Exploration Services Ltd., 2013, p. 3–4; 2014, p. 2–3, 8–9; Erin Ventures, 2015a–c; 2015d, p. 3, 7; Balkan Gold Corp., 2016; Rio Tinto plc, 2016).

¹Where necessary, values have been converted from euro area euros (EUR) to U.S. dollars (US\$) at an annual average exchange rate of EUR0.937=US\$1.00 for 2015.

Outlook

Serbia's economy is forecasted to continue to increase its positive rate of growth in 2016. The GDP was projected to increase by 2.5% in 2016. Serbia relies heavily on foreign investment and loans for infrastructure development and mineral extraction. Implementation of the Law on Mining and Geological Research by the Government might help to promote the mineral industry and attract foreign investment. Many copper and gold projects in Serbia were at the exploration stage, but an increase in copper and gold production is not expected in the near future. Serbia has potential to become a lithium and boron producer. Production of crude steel, hot-rolled products, and pig iron, which more than doubled in 2015, may continue to increase (International Monetary Fund, 2016, p. 232).

References Cited

- Balkan Gold Corp., 2016, Balkan Gold: Balkan Gold Corp. (Accessed January 6, 2017, at http://balkan-gold.com/balkan_gold_home_en.html.)
- Dundee Precious Metals Inc., 2016, 2015 annual report: Toronto, Ontario, Canada, Dundee Precious Metals Inc., 135 p. (Accessed January 5, 2017, at http://s21.q4cdn.com/589145389/files/doc_financials/English/2015/AnnualReport/FINAL-ANNUAL-REPORT-2015_ONLINE.pdf.)
- eKapija, 2015, Chinese company interested in Zelezara Smederevo: eKapija, July 1. (Accessed November 21, 2016, at <http://www.ekapija.com/webside/en/page/1183346/Chinese-company-interested-in-Zelezara-Smederevo>.)
- Erin Ventures Inc., 2015a, Erin Ventures announces additional Jarandol boron project assay results: Erin Ventures Inc. press release, December 22. (Accessed November 18, 2016, at http://www.erinventures.com/media/nws_d.php?id=139.)
- Erin Ventures Inc., 2015b, Erin Ventures announces additional Piskanja boron project assay results: Erin Ventures Inc. press release, November 25. (Accessed November 18, 2016, at http://www.erinventures.com/media/nws_d.php?id=135.)
- Erin Ventures Inc., 2015c, Erin Ventures announces drill program underway at its Piskanja boron property: Erin Ventures Inc. press release, May 11. (Accessed January 6, 2017, at http://www.erinventures.com/media/nws_d.php?id=122.)
- Erin Ventures Inc., 2015d, Piskanja borate project, Serbia: Victoria, British Columbia, Canada, Erin Ventures Inc. presentation, March, 40 p. (Accessed January 6, 2017, at <http://www.erinventures.com/pdf/ev-dec16.pdf>.)
- Ilić, Jelena, 2015, Železara - Čelika duplo više! [Zelezara—Twice as much steel!]: Belgrade, Serbia, Evening New Online, May 24.
- InSerbia Network Foundation, 2015, HPK Engineering to manage Zelezara Smederevo: InSerbia Network Foundation, March 18. (Accessed January 6, 2017, at <https://inserbia.info/today/2015/03/hpk-engineering-to-manage-zelezara-smederevo/>.)
- International Monetary Fund, 2016, Republic of Serbia and the IMF: International Monetary Fund Web page, November 10. (Accessed November 27, 2015, at <http://www.imf.org/external/country/SRB/index.htm>.)
- Jelenković, Rade, 2016, Realizacija punog potencijala mineralnih resursa Republike Srbije [Realizing the full potential of Serbia's mineral resources]: Faculty of Mining and Geology, presentation, 13 p.
- Kolektiv, 2015a, Kolektive: Kolektiv Online, no. 2265, December. (Accessed November 18, 2016, at <http://kolektiv.co.rs/preuzmite-kolektiv/>.)
- Kolektiv, 2015b, Kolektive: Kolektiv Online, no. 2775, November. (Accessed November 18, 2016, at <http://kolektiv.co.rs/preuzmite-kolektiv/>.)
- Kolektiv, 2016, Overeno 4,3 miliona tona rezervi rudnog tela „T3“ [Certified 4.3 million tons of ore body “T3”]: Kolektiv Online, May 6. (Accessed January 5, 2017, at <http://kolektiv.co.rs/overeno-43-miliona-tona-rezervi-rudnog-tela-t3/>.)
- KPMG d.o.o., 2016, Available financing to mining projects and new legislation status—Tax aspects: KPMG d.o.o. presentation, October 4, 13 p.
- Marketwired, 2012, Avala Resources announces initial resource estimate for Bigar Hill, part of the Timok gold project, Serbia: Marketwired, July 6. (Accessed January 5, 2017, at <http://www.mining.com/avala-resources-announces-initial-resource-estimate-for-bigar-hill-part-of-the-timok-gold-project-serbia/>.)
- Marketwired, 2014, Dundee Precious Metals acquires shares and warrants of Avala Resources Ltd. on completion of business combination with Dunav Resources Ltd.: Marketwired, October 3. (Accessed January 5, 2017, at <http://www.marketwired.com/press-release/dundee-precious-metals-acquires-shares-warrants-avala-resources-ltd-on-completion-business-tsx-dpm-1953507.htm>.)
- Marketwired, 2015a, Avala Resources starts drilling on the Lenovac project: Marketwired, December 21. (Accessed November 23, 2016, at <http://www.marketwired.com/press-release/avala-resources-starts-drilling-on-the-lenovac-project-tsx-venture-avz-2083796.htm>.)
- Marketwired, 2015b, Reservoir Minerals executes joint venture and shareholders agreement with Freeport and outlines the 2015 exploration budget for the Timok project in Serbia: Marketwired, March 12. (Accessed November 22, 2016, at <http://www.marketwired.com/press-release/reservoir-minerals-executes-joint-venture-shareholders-agreement-with-freeport-outlines-tsx-venture-rmc-1999723.htm>.)
- Ministry of Mines and Energy, 2014, Law on mining and geological exploration: Ministry of Mines and Energy, 92 p. (Accessed November 25, 2016, at <http://www.mre.gov.rs/doc/geologija-rudarstvo/Law%20on%20Mining%20and%20Geological%20Explorations.pdf>.)
- Monthel, J., Vadala, P., Leistel, J.M., Cottard, F., with the collaboration of M. Ilic, A. Strumberger, R. Tosovic, and A. Stepanovic, 2002, Mineral deposits and mining districts of Serbia: Republic of Serbia Ministry of Mining and Energy, BRGM/RC-51448-FR, March, 67 p. (Accessed January 3, 2017, at http://giseurope.brgm.fr/GIS_SERBIA/RC_51448_FR.pdf.)
- Reservoir Minerals, 2015, Cukaru Peki mineral resource: Reservoir Minerals presentation. (Accessed November 22, 2016, at <http://www.slideshare.net/reservoirminerals/reservoir-minerals-corporate-presentation-2015>.)
- Rio Tinto plc, 2014, Rio Tinto Serbia highlights—Innovating to develop new resources—Q4 2014–Q1 2015: London, United Kingdom, Rio Tinto plc newsletter, issue 7, 5 p. (Accessed November 23, 2015, at http://www.riotintoserbia.com/documents/Newsletter_2014_Q4_2015_Q1_.pdf.)
- Rio Tinto plc, 2016, Rio Tinto commits to funding studies on lithium-borate project in Serbia through 2017—Serbian Mining Ministry extends licensing agreement for Jadar project: London, United Kingdom, Rio Tinto plc press release, 2 p. (Accessed January 6, 2017, at http://www.riotinto.com/documents/RTM_News_Jadar_Funding_02.16.16.pdf.)
- Rudarsko Topionicki Bazen Bor, 2015, Januarska proizvodnja Rudanika bakra Majdanpek, [January production at the Majdanpek Mine]: Rudarsko Topionicki Bazen Bor, January 27. (Accessed November 18, 2016, at <http://rtb.rs/en/januarska-proizvodnja-rudnika-bakra-majdanpek/>.)
- Serbia Energy, 2013, Serbia mining—Bor copper company opens new ore 700k tons deposit pits, copper 1.7%: Serbia Energy, October 20. (Accessed May 19, 2014, at <http://serbia-energy.eu/serbia-mining-bor-copper-company-opens-new-ore-700k-tons-deposit-pits-copper-1-7/>.)
- Serbia Energy, 2015a, JV agreement Rio Tinto & Avala Resources for 2016 exploration copper-gold project Lenovac: Serbia SEE Energy Mining News, December 3. (Accessed November 21, 2016, at <http://serbia-energy.eu/serbia-mining-jv-agreement-rio-tinto-avala-resources-for-2016-exploration-copper-gold-project-lenovac/>.)
- Serbia Energy, 2015b, Mineco Bosilegrad 2016 lead-zinc [sic] mine opening preparations underway: Serbia SEE Energy Mining News, November 25. (Accessed November 21, 2016, at <https://serbia-energy.eu/serbia-mining-mineco-bosilegrad-2016-lead-zinc-mine-opening-preparations-underway/>.)
- Serbia Energy, 2015c, Mineco Ltd marks production increase in its Veliki Majdan lead & ore inc [sic] mine: Serbia SEE Energy Mining News, April 23. (Accessed November 21, 2016, at <http://serbia-energy.eu/serbia-mining-mineco-ltd-marks-production-increase-in-its-veliki-majdan-lead-ore-inc-mine/>.)
- Serbia Energy, 2015d, Reservoir Minerals strike [sic] a deal with Rio Tinto: Serbia SEE Energy Mining News, November 16. (Accessed November 21, 2016, at <http://serbia-energy.eu/serbia-mining-reservoir-minerals-strike-a-deal-with-rio-tinto/>.)
- Serbia Energy, 2015e, Rio Tinto prepares for its lithium jadarite mining exploration: Serbia SEE Energy Mining News, August 19. (Accessed November 18, 2016, at <http://serbia-energy.eu/serbia-mining-rio-tinto-prepares-for-its-lithium-jadarite-mining-exploration/>.)
- Serbia Energy, 2015f, The future of state owned copper mine Bor: Serbia SEE Energy Mining News, April 15. (Accessed November 18, 2016, at <http://serbia-energy.eu/serbia-mining-the-future-of-state-owned-copper-mine-bor/>.)

- SRK Exploration Services Ltd., 2013, Technical report and mineral resource estimate for the Piskanja borate project, Serbia: Erin Ventures Inc., November 29, 127 p. (Accessed November 18, 2015, at http://www.erinventures.com/pdf/2013/ev_tech_report.pdf.)
- SRK Consulting (UK) Ltd., 2014, Technical report and preliminary economic assessment for the Piskanja borate project, Serbia: Cardiff, United Kingdom, September 1, 173 p. (Accessed November 18, 2015, at http://www.erinventures.com/pdf/2014/U5932-Piskanja-43-101-PEA_Final.pdf.)
- Statistical Office of the Republic of Serbia, 2016a, Industrija [Industry], chap. 10 of Statistički godišnjak Republike Srbije 2016, [Statistical yearbook of the Republic of Serbia 2016]: Statistical Office of the Republic of Serbia, p. 252–264. (Accessed November 17, 2016, at <http://webrzs.stat.gov.rs/WebSite/repository/documents/00/02/29/01/10-INDUSTRIJA.pdf>.)
- Statistical Office of the Republic of Serbia, 2016b, Spoljnu trgovinu [External trade], chap. 14 of Statistički godišnjak Republike Srbije 2016, [Statistical yearbook of the Republic of Serbia 2016]: Statistical Office of the Republic of Serbia, p. 309–330. (Accessed November 18, 2016, at http://webrzs.stat.gov.rs/WebSite/repository/documents/00/02/28/77/14_Spoljna_trgovina.pdf.)
- Statistical Office of the Republic of Serbia, 2016c, Statistički godišnjak Republike Srbije 2016, [Statistical yearbook of the Republic of Serbia 2016]: Statistical Office of the Republic of Serbia, 434 p. (Accessed November 17, 2016, at <http://pod2.stat.gov.rs/ObjavljenePublikacije/G2016/pdf/G20162019.pdf>.)
- Thomson Reuters, 2015, China's Hebei Iron and Steel Group eyes investment in Serbia steel mill—PM: Thomson Reuters, October 9. (Accessed January 6, 2017, at <http://www.reuters.com/article/serbia-steel-idUSL8N1291L120151009>.)
- Williams, Sandy, 2015, Dutch company to manage Serbian steel mill Zelezara Smedervo: Steel Market Update, March 22. (Accessed January 6, 2017, at <https://www.steelmarketupdate.com/news/6133-dutch-company-to-manage-serbian-steel-mill-zelezara-smedervo>.)
- World Bank, The, 2015, Serbia: Washington, DC, The World Bank. (Accessed November 17, 2016, at <http://www.worldbank.org/en/country/serbia>.)

TABLE I
SERBIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2011	2012	2013	2014	2015
METALS					
Aluminum ingot, including alloys, secondary	68,757 ^r	64,543 ^r	65,666 ^r	63,511 ^r	65,957
Copper:					
Mine and concentrator output:					
Ore:					
Gross weight thousand metric tons	12,216	14,346	16,673	16,714	17,108
Cu content of ore	33,400	41,460	44,453	45,296	47,218
Concentrate, Cu content	28,100	34,400 ^r	35,500 ^r	35,843	36,410
Metal:					
Smelter	29,000	35,000	37,000	33,000	55,000
Refined:					
Primary	25,251	32,229	32,606	31,584	42,729
Secondary	3,198	2,473	3,234	1,591	1,917
Total	28,449	34,702	35,840	33,175	44,646
Gold, refined kilograms	1,032	900	866	1,310	628
Iron and steel:					
Pig iron	1,226,000 ^r	312,000 ^r	365,000 ^r	550,000 ^r	904,000
Crude steel	1,324,000	346,000 ^r	396,000	583,000	955,000
Hot-rolled products	1,225,000	155,000	130,000	315,000	820,000 ^c
Lead:					
Mine output, Pb content	2,100 ^r	2,500 ^r	3,100 ^r	3,700 ^r	2,400
Refined, Pb content	3,000 ^r	13,000	15,000	15,000	15,000
Platinum-group metals:					
Palladium kilograms	4	22	25	23	31
Platinum do.	6	3	2	3	4
Selenium do.	12,947	13,200	15,727	17,225	14,950
Silver, mine output, Ag content do.	4,750	5,224	5,764	7,360	5,470
Zinc, mine output, Zn content	3,100 ^r	6,000 ^r	5,800 ^r	6,200 ^r	4,000
INDUSTRIAL MINERALS					
Cement thousand metric tons	2,095	1,831	1,592	1,605	1,654
Clay, kaolin	379,000	155,000	156,000	214,000	216,210
Lime thousand metric tons	274	239	279	215	189
Limestone, gypsum, and chalk do.	2,732	2,467 ^r	2,459	2,623	2,878
Marble and granite blocks do.	637	182	241	226	271
Nitrogen, N content of ammonia	161,000 ^r	170,000 ^r	202,000 ^r	109,000	89,000
Salt, all sources	23,144	16,506	13,704	12,994	13,202
Sand and gravel, excluding glass sand thousand cubic meters	5,776	4,953	3,957	4,845	6,141
Silica sand do.	757	1,213	633	462	108
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous thousand metric tons	142	148	160	126	123
Brown coal do.	350	317	341	354	351
Lignite do.	40	37	40	29	37
Total do.	532	502	541	509	511
Natural gas, gross production million cubic meters	617	672	661	631 ^r	626
Petroleum:					
Crude thousand 42-gallon barrels	7,570	8,340	8,630	8,153	7,528
Refinery products:					
Gasoline do.	4,401	3,446	4,419	4,615	4,141
Kerosene do.	611	564	564	843	792
Distillate fuel oil do.	4,715	4,774	8,131	8,422	9,258
Residual fuel oil do.	2,383	2,637	2,611	2,444	2,052
Lubricants do.	75,117	59,304	74,683	107,254	92,299
Total do.	87,227 ^r	70,725 ^r	90,408	123,578	108,542

^cEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto.

¹Table includes data available through November 18, 2016.

²In addition to the commodities listed, secondary magnesium metal (primary and secondary) and other mineral commodities may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2
SERBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity holders	Location of main facilities	Annual capacity	
Aluminum, smelter, secondary	Nissal A.D.	Nis	2	
Do.	Impol Seval A.D.	Sevojno	45	
Do.	Industrium d.o.o.	Sremska Mitrovica	75	
Do.	Seval	Tresnjica	26	
Cement	Beocinska Fabrika Cementa (LafargeHolcim Ltd., 100%)	Plant at Beocin	2,000	
Do.	Holcim (Srbija) a.d. (CHR Group, 100%)	Plant at Novi Popovac	1,400	
Do.	Titan Cementara Kosjerić d.o.o (Titan Group, 100%)	Plant at Kosjerić	500	
Clay, kaolin	Jugo-Kaolin d.o.o. (Quarzwerke GmbH., 87%)	Slatina Mine	NA	
Coal:				
Bituminous	JP PEU Resavica	Ibarski Rudnici Mines near Baljevac and Vrska Cuka Mines	70 °	
Brown coal	do.	Underground mines near Resavica, Bogdinac, Bogovina, Krepoljin, and Stavalj	400 °	
Lignite	MB Kolubara Ltd. (Electric Power Industry of Serbia)	Opencast mines: Field B, Field D, Veliki Crljeni, and Tamnava West near Vreoci	31	
Do.	TPPs-OCMs Kostolac Ltd. (Electric Power Industry of Serbia)	Opencast mine at Drmno near Kostolac	9	
Do.	JP PEU Resavica	Underground mine at Lubnica	60 °	
Copper:				
Mine production, Cu content of concentrate	Rudarsko Topionicki Bazen Bor (RTB Bor) (Government owned)	Mine Cerovo at Bor	36	
Do.	do.	Jama Mine and mill at Bor	8	
Do.	do.	Mine and mill at Majdanpek	30	
Do.	do.	Mine and mill at Veliki Krivelj	20	
Metal	do.	Smelter and refinery at Bor	80	
Gold, refined	do.	do.	1	
Lead, metal, secondary	Farmakom M.B.	Smelter at Zajaca	NA	
Lead-zinc ore	Contango d.o.o.	Mine and mill at Rudnik	250 °	
Do.	NA	Grot Mine near Vranje	300 °	
Do.	Farmakom M.B.	Mines at Rajiceva Gora, Ravnaja, and Veliki Cip	350 °	
Do.	Mineco Group	Mine at Veliki Majdan, near Ljubovija	50 °	
Lime	Jelen Do a.d. (Nexe Grupa)	Plant in Jelen Dol, west of Cacak	90	
Do.	Zelezara Smederevo d.o.o.	Plant at Kucevo	NA	
Do.	Ravnaja AD	Plant at Mali Zvornik	NA	
Magnesium, concentrate	Magnohrom d.o.o.	Mines near Kraljevo	NA	
Magnesium:				
Mine (byproduct of dolomite mining)	MG Serbien d.o.o.	Bela Stena, near Baljevac	NA	
Metal:				
Primary	do.	do.	2	
Secondary	do.	do.	2	
Natural gas	million cubic meters	Naftna Industrija Srbije a.d. (NIS) (JSC Gazprom Neft, 56.15%, and Government, 29.87%)	Throughout northern Serbia	600 °
Petroleum:				
Crude	thousand 42-gallon barrels per day	do.	Mainly in northeastern Serbia	24 °
Refined	do.	do.	Refinery at Pancevo	4,800
do.	do.	do.	Refinery at Novi Sad	2,500
Pig iron		Zelezara Smederevo d.o.o.	Two blast furnaces at Smederevo	NA
Platinum-group metals		Rudarsko Topionicki Bazen Bor (RTB Bor) (Government owned)	Mine Cerovo at Bor	NA
Silica sand		Jugo-Kaolin d.o.o. (Quarzwerke GmbH., 87%)	Cucuge, Avala, Slatina, Dokmir	NA
Silver		Rudarsko Topionicki Bazen Bor (RTB Bor) (Government owned)	Mine Cerovo at Bor	NA
Steel, crude		Zelezara Smederevo d.o.o.	Plant at Smederevo	2,200
Zinc, mine output, Zn content		Hemijiska Industrija Zorka	Electrolytic plant at Sabac	30

°Estimated. Do., do. Ditto. NA Not available