



2013 Minerals Yearbook

RUSSIA

THE MINERAL INDUSTRY OF RUSSIA

By Elena Safirova

In 2013, Russia was ranked among the world's leading producers or was a leading regional producer of such mineral commodities as aluminum, antimony, arsenic, asbestos, bauxite, boron, cadmium, cement, coal, cobalt, copper, diamond, diatomite, fluor spar, gallium, gemstones, germanium, gold, graphite, gypsum, indium, iodine, iron ore, lead, lime, magnesium compounds and metals, mica (flake, scrap, and sheet), molybdenum, natural gas, nickel, nitrogen, palladium, peat, petroleum, phosphate rock, pig iron, platinum, potash, rare earths, rhenium, selenium, silicon, silver, steel, sulfur, tellurium, titanium sponge, tungsten, uranium, vanadium, and vermiculite (BP p.l.c., 2013; Anderson, 2015a, b; Apodaca, 2015a–c; Bedinger, 2015; Bray, 2015a–d; Brininstool, 2015; Corathers, 2015; Crangle, 2015a–c; Edelstein, 2015; Fenton, 2015; Gambogi, 2015; George, 2015; Guberman, 2015a–c; Jasinski, 2015a, b; Jaskula, 2015; Katrivanos, 2015; Kuck, 2015; Loferski, 2015; McRae, 2015; Olson, 2015a–c; Polyak, 2015a–d; Shedd, 2015a, b; Tanner, 2015; Tolcin, 2015a, b; Tuck, 2015a, b; van Oss, 2015; Virta, 2015; Willett, 2015; World Nuclear Association, 2015).

Minerals in the National Economy

In 2013, the growth rate of the real gross domestic product (GDP) of Russia was 1.3%, which was a decrease compared with the 3.4% GDP growth rate in 2012; in 2013, the nominal GDP increased to 66,755 billion rubles (\$2,098 billion¹). Industrial production contributed 36.0% to the total GDP, and the industrial sector accounted for 27.1% of the country's overall employment. Mining and quarrying contributed 6.2 billion rubles (\$195 million), or 10.8%, to the total value added in the economy in 2013, and the total value of output from mining and quarrying in current prices was 9.75 billion rubles (\$307 million), or 14.6% of the GDP (Federal'naya Sluzhba Gosudarstvennoy Statistiki, 2014).

During 2013, the value of mining and quarrying output increased by 1.1%. The value of mining and quarrying of fuel and energy products increased at a slightly slower rate (by almost 0.9%) than did the value of mining and quarrying of nonenergy minerals, which increased at a rate of 2.3%. Among the nonmining industrial sectors, the value of metallurgy and finished metal products remained practically unchanged; the value of the production of coke and petroleum products increased by 2.3%; and the value of chemical products increased by 5.4%. The value of output of other nonmetal mineral products decreased by 2.0% (Federal'naya Sluzhba Gosudarstvennoy Statistiki, 2014).

¹Where necessary, values have been converted from Russian rubles (RUB) to U.S. dollars (US\$) at an annual average exchange rate of RUB31.82=US\$1.00 for 2013 and RUB31.07=US\$1.00 for 2012. All values are nominal, at current prices, unless otherwise stated.

Government Policies and Programs

In 2013, the Government of Russia used legislative, regulatory, and economic methods to stimulate the mineral sector of the economy and to manage mineral resources. In March, the Ministry of Natural Resources and Environment (Minprirody) published the text of a new Government program titled "Regeneration and use of mineral resources." The goals of the program were (a) to provide a stable source of mineral resource and geologic information, (b) sustainable water use and protection of national water resources from the potentially negative impacts of mining, and (c) ensure sustainable reproduction of the wild animal population and the rational use of natural resources related to hunting. The program was to be in effect between 2013 and 2020, and the Government set aside 700 billion rubles (about \$22 billion) from the Federal budget to support the program. The program was to include an increase in mineral resource prospecting and exploration activities and an increase in measured resources. In particular, the Government expected to increase measured resources of petroleum by 6,010 million metric tons (Mt); natural gas, by 12,600 billion cubic meters; coal, by 7,120 Mt; uranium, by 106,000 metric tons (t); iron ores, by 1,600 Mt, and gold, by 4,072 t. Minprirody was the leading Government agency responsible for the program, but seven other agencies were to play supporting roles in the program (MinerJob.ru, 2013k).

In 2013, several important developments took place at OAO Rosgeologiya Holding Co., a strategic stock company that was 100%-owned by the Government. Rosgeologiya was created in 2011 to streamline and increase Government participation in exploration for mineral resources; 37 government-owned geologic companies located in 30 Russian regions were consolidated under one state company, and the integration continued throughout 2013. Most of the 37 companies were mature firms created when Russia was still a part of the Soviet Union; however, as of 2013, these companies had few contracts, had low profitability, and were in need of new technologies and equipment. In 2013, the overall share of Rosgeologiya on the national mineral exploration market was only 3.5%. Another problem was a geographic imbalance of facilities within Rosgeologiya. Most of Rosgeologiya's production facilities were located in central Russia, where the potential for finding mineral deposits was low, whereas only a few production facilities were located in the eastern parts of Russia and the Russian Far East, where the potential for finding mineral deposits was high. Rosgeologiya's investment program for the period between 2014 and 2016 was intended to raise about 21 billion rubles (about \$660 million), of which between 15% and 20% would come from the Federal Government. In 2013, the Government spent a total of \$1 billion on mineral exploration (MinerJob.ru, 2013d, e).

In November, Rosgeologiya prepared a draft of the company's strategy through 2030, which contained five interrelated

elements of the strategy that were referred to as blocks. The first block included prospecting, exploration for, evaluation of, and additional (more detailed) exploration of mineral deposits that had been explored previously on the company's own initiative, in accordance with general Government rules and regulations governing access to regular, nonstrategic mineral resources. The second block concerned formation of alliances and consortia with other companies with the goal of helping to manage risks for small- and medium-size businesses; the activities included discovery, evaluation, and occasional exploration of specific, highly promising projects. The third block concerned the provision of a wide spectrum of geologic and geophysical services. The fourth block involved Rosgeologiya serving as an operator of particular governmental functions with respect to the use of subsoil; such functions could be given to Rosgeologiya by the Government on a case-by-case basis. The fifth block involved an active commercialization of all stages of geologic work, from discovery and prospecting to exploration and evaluation. In October, the leadership of Rosgeologiya suggested a revision to the Russian Mining Code (called the Law on Subsoil) to allow Rosgeologiya to obtain exploration licenses for mineral resources without auctions or other competitive procedures. At yearend, it was still unclear if such revisions would have sufficient support within the Government to proceed with drafting a legislative amendment (Mineral.ru, 2013e; MinerJob.ru, 2013d, r, s).

In 2013, the Federal Agency for Subsoil Use (Rosnedra) insisted that the Law on Subsoil had to be revised to include several important amendments. The Agency indicated that the existing incentive mechanisms built into the process of licensing were not effective and needed to be changed. In particular, Rosnedra suggested an increase in the maximum time for subsoil exploration to 7 years (from 5 years previously) for continental deposits, issuance of exploration licenses for a group of minerals rather than separate licenses for each individual mineral, and a delay of the one-time license fee until the beginning of deposit development (MinerJob.ru, 2013t).

In September, Minprirody announced that it was planning to require companies engaged in mineral extraction to set aside funds that would be used for mine closure and land reclamation when the deposit is depleted. The funds would be accumulated in special interest-bearing accounts during the entire period of mine operations, and would not be subject to taxes on profits. Minprirody stated that the amount of money reserved for mine closings would be at least 1% of the mine operating costs, but, according to alternative rules, could be as high as 5.5% of all mine costs during the period of mineral extraction. As of yearend, the exact rules were still in the process of being made final (MinerJob.ru, 2013l).

Between August and November, the Ministry of Energy was developing a proposal to offer tax breaks for companies to mine coal in the hard-to-access regions in the east, in particular in the Russian Far East and the Tyva Republic. The analysts expected that the new tax rules would apply primarily to the Elga bituminous coal deposit, which was being developed by OAO Mechel, and the Elegest bituminous deposit, which was being developed by OOO Tyva Energy Industrial Corp. (TEPK). The tax break was likely to be provided in the form of a reduced tax

on mineral extraction (NDPI), but no specific details had been announced (MinerJob.ru, 2013j).

In November, Minprirody announced that it had developed a new classification of resources and reserves of natural gas and petroleum that, unlike the existing classification, would take into account the economic viability of resource development. If approved by other agencies, in particular, the Ministry of Justice, the new system would go in effect at the beginning of 2016. One of the goals of the new classification was compatibility with international classification systems, such as SPE-PRMS (Petroleum Resource Management System, which was developed by the Society of Petroleum Engineers). During 2014 and 2015, the Government intended to identify and develop new regulatory actions that would be required to make the new system operational. The existing classification system had been in effect since 2001 and closely followed the system that had been used in the Soviet Union starting in the 1980s (Mineral.ru, 2013a, d).

In May, Minprirody announced that it was planning to declassify data on the resources of natural gas and petroleum. The "Law on the State Secret" adopted in 1993 says that the amount of available resources of hydrocarbons and other strategically important mineral resources, as well as information about their extraction, production, and use, are subject to the Law on the State Secret and are not to be disclosed. Such stipulations have become less practical because the international energy companies that work in Russia and large Russian companies, whose shares are traded internationally, are subject to international audits. Moreover, lack of information about resources likely reduces the attractiveness of Russian hydrocarbons to investors and potentially hurts the oil and gas sector. Also, the secrecy likely adversely affects remote regions, such as Yugra and Yamalo-Nenetskiy Avtonomnyy Okrug, disproportionately (Mineral.ru, 2013f).

In July, the Government issued rules governing the formation of a Federal Reserve Fund of subsoil lots containing minerals. The Law on the Reserve Fund was adopted in 2008, but there was no approved list of criteria that would determine which particular deposits were to be placed in the Fund. The stated goal of the Reserve Fund was preservation of strategically important deposits of natural gas, petroleum, rare earths, and uranium for the long term. As of 2013, the Government decided that the best way to build the Reserve Fund would be to include deposits that were not economic to develop at the present time, either because of the lack of infrastructure in the region in question or the lack of technology needed for effective mineral extraction. The specific deposits to be placed in the Reserve Fund would be determined by the Minprirody with the participation of scientists from the Russian Academy of Sciences. If the economic conditions for mining one of the Reserve Fund deposits were to improve and the extraction were to become economically viable, the deposit would be removed from the Reserve Fund and auctioned off to the highest bidder. A Government approval, however, would be required to remove a deposit from the Reserve Fund (MinerJob.ru, 2013m, o).

In February, the President of Russia issued a decree that outlined a strategy for further development of the mineral industry in the Arctic region through 2020. The resources

located in the Arctic shelf were included in the Reserve Fund. The Reserve Fund was expected to contribute to the energy security of Russia after 2020 when the rate of extraction at conventional deposits would start to decrease as the deposits become depleted. It was anticipated that in the near future, the Arctic reserves of hydrocarbons would increase because of intensive study and exploration of Arctic territories. At the same time, the strategy assumed that development projects in the Timan-Pechora geologic province and on continental shelves in the Barents, Kara, and Pechora Seas, and on the Gydan and Yamal Peninsulas, would be realized in the near future (Mineral.ru, 2013c).

Production

In 2013, Russia's production of mineral commodities was largely stable. Production of secondary gold increased by 109%; estimated tin mine output, by 101%; native sulfur, 79%; ferrovandium, 27%; secondary silver (estimated) and peat (estimated), 25% each; mined antimony and mined tungsten, 19% each; ferromanganese, 13%; anthracite coal, 12%; and barite (estimated), 11%. At the same time, production of fluor spar decreased 77%; molybdenum concentrate (estimated), 17%; high-nickel ferronickel (estimated) and ferroniobium (estimated), 14% each; refined lead and mined zinc, 13% each; soda ash, 12%; production of aluminum metal, ferrochromium, and zinc metal, 11% each; and nickel chemicals (estimated), 10%. Production data for these and other mineral commodities are in table 1.

Structure of the Mineral Industry

At the end of 2013, Russia had 17,400 enterprises engaged in mining and quarrying, which was a 0.58% increase compared with the number of enterprises active in mining and quarrying in 2012. Of these enterprises, 7,000 were engaged in extracting fuel minerals and the other 10,400 were engaged in mining nonfuel minerals. Out of all mining and quarrying enterprises, only about 200 were owned by the central and municipal governments, 15,400 were owned by the private sector, and about 300 were either owned by foreign companies or jointly owned by domestic and foreign entities. In addition, Russia had 4,900 enterprises engaged in metallurgy, the majority of which were owned by the private sector. Information on the structure of Russia's mineral industry is in table 2 (Federal'naya Sluzhba Gosudarstvennoy Statistiki, 2014).

Mineral Trade

In 2013, the total value of Russian exports was \$527.3 billion, which was a 0.5% increase compared with the revised value of exports in 2012. The value of Russian imports decreased in 2013, to \$315.0 billion, or by 1.0%. In 2013, Russia had a positive trade balance of \$212.3 billion (Federal'naya Sluzhba Gosudarstvennoy Statistiki, 2014).

The main export categories for Russia were chemicals, manufactured goods, metals, natural gas, petroleum and petroleum products, and wood and wood products. Mineral products made up 71.5% of the total value of Russian exports, and crude oil alone contributed 33.0% to the total

value of exports. Petroleum refinery products accounted for another 20.8%; natural gas, 12.8%; and ferrous metals, 3.8%. Among ferrous metals and products made out of them, the leading categories were semifinished products made from carbon steel (32.2%) and flat-rolled iron and steel (25.8%). Other mineral products that contributed significant amounts to Russia's export revenue were bituminous coal (2.2%), aluminum (1.2%), nickel (0.69%), complex mineral fertilizers (0.68%), nitrogen fertilizers (0.64%), and ferrous ores and concentrates (0.45%). The major export partners of Russia in 2013 were the Netherlands (which received 13.3% of Russia's exports), Italy (7.5%), Germany (7.0%), China (6.8%), Turkey (4.8%), Ukraine (4.5%), Belarus (3.8%), Japan and Poland (3.7% each), Kazakhstan (3.3%), and the United Kingdom (3.1%) (Federal'naya Sluzhba Gosudarstvennoy Statistiki, 2014).

In 2013, Russia imported \$8,185 million worth of products made of ferrous metals (which constituted 2.6% of the total imports) and \$5,892 million worth of ferrous metals (1.9%). The major imports partners of Russia were China (which supplied 16.9% of Russia's imports), Germany (12.0%), the United States (5.2%), Ukraine (5.0%), Italy (4.6%), Belarus (4.4%), Japan (4.3%), and France (4.1%) (Federal'naya Sluzhba Gosudarstvennoy Statistiki, 2014).

Commodity Review

Metals

Cobalt.—In 2013, Russia mined an estimated 6,350 t of cobalt, which was less than a 1% increase compared with mined cobalt production in 2012. In the beginning of 2012, OJSC MMC Norilsk Nickel (Nornickel) announced that it was planning to invest about 2 billion rubles (\$61.7 million) into its own production of electrolytic cobalt, which would enable the company to export cobalt metal rather than just mined cobalt concentrate. In 2012, Nornickel spent about 230 million rubles (about \$7.4 million) to purchase new equipment for the cobalt metal line, and in 2013, it spent another 350 million rubles (\$11 million). The first step in the production line was a two-stage cobalt purification process. The assembly of equipment for this first step was completed in April, followed by testing and calibration of the production line. The presence of the second stage of the purification process would allow for reduction of the amount of nickel in the initial cobalt cake; it would also reduce the consumption of chemicals—hydrochloric and sulfuric acid—in the production process. In October 2013, the company received equipment for the second production step, which was cutting cobalt cathodes. The cost of the cutting equipment was about 120 million rubles (\$3.77 million). The assembly of the equipment was scheduled for December 2013, and testing, for March 2014 (Khibiny.com, 2013; MinerJob.ru, 2013g; OJSC MMC Norilsk Nickel, 2013).

Ferroalloys.—In December, OAO Mechel completed the sale of some of its assets to the Yildirim Group of Turkey for \$425 million in cash. The assets included the GOK Voskhod in Kazakhstan and the Tikhvinskiy ferroalloy plant (TFZ) in Leningradskaya Oblast'. Mechel had spent \$1.4 billion in 2008 to purchase the GOK Voskhod (then still under construction)

and the TFZ. TFZ was a modern plant with annual capacity to produce 120,000 metric tons per year (t/yr) of high-carbon ferrochromium, which is used in the production of stainless steel. Reserves of the GOK Voskhod were estimated to be more than 20 Mt of ore, according to the Joint Ore Reserves Committee (JORC) classification standard. The Yildirim Group was the second-ranked producer of ferrochromium in the world. According to Mechel, the company was trying to reduce its debt and tax burden and to sell assets outside of its primary business (Mineral.ru, 2013b; MinerJob.ru, 2013a, i).

In July, the Krasnoyarskiy Science Center of the Russian Academy of Sciences received an official request to conduct an independent environmental assessment of the plan to build the Eniseyskiy ferroalloys plant (EFZ). The assessment was to be completed by November 2013. The CJCS Chek-SU.VK, which was based in Kemerovo, was planning to build the EFZ as a part of the development of a mining and metallurgical complex (GMK). The complex would include a mining complex (GOK) in the Kemerovo region that would process ores mined from the Usinskoye manganese deposit. The GOK was to process 1.4 million metric tons per year (Mt/yr) of ore and produce 760,000 t/yr of manganese concentrate. The first stage of the EFZ construction was to be completed in 2014; at that time, EFZ would have the capacity to produce 250,000 t/yr of ferroalloys. The second stage, to be completed in 2017, would result in a capacity increase to 630,000 t/yr. The residents of Krasnoyarsk, however, were opposed to the construction of the plant. The planned location of the plant was within 9 kilometers (5.6 miles) of the city center, and the residents were convinced that the construction of a ferroalloys plant would negatively affect water and air quality in the city, which already had many other industrial plants. The city government, led by the mayor, and the government of Krasnoyarskiy Kray supported the protests and, in January 2012, the Governor of Krasnoyarskiy Kray announced that he officially rescinded all agreements with Chek-SU.VK related to the EFZ construction. In March, the regional administration excluded the project from the regional land use plan and refused to issue relevant construction permits. The Federal Government of Russia, however, considered construction of the EFZ to be of national importance. In June 2013, the President of Russia personally requested the Governor of Krasnoyarskiy Kray to order an independent environmental assessment of the project. By yearend, it was not clear what the conclusion of the assessment was (MinerJob.ru, 2013q).

Nickel.—In 2013, Russia mined an estimated 250,000 t of nickel in concentrates, which was a 1.6% decrease from the level in 2012. Nornickel was the country's leading nickel producer and the world's leading nickel mining company. Other significant nickel producers in Russia included OAO Ufaleynickel and OAO Yuzhuralnickel (Kuck, 2015; Mineral-Info, 2015b).

Nornickel's operations in Russia were located on the Kola Peninsula in northwestern Russia and in the Norilsk region on the Taymyr Peninsula in eastern Siberia. Nornickel also owned assets in Australia, Botswana, Finland, and South Africa. In 2013, Nornickel developed a new strategy that would help the company to survive the times when nickel prices were low

and Russia was losing nickel market shares to China, Indonesia, and the Philippines. The new strategy was unveiled to investors in October in London. According to the new strategy, the company should utilize a full potential of nickel resources in Russia and would focus on the first-class assets that would be able to provide a stable rate of return on investment. Nornickel was planning to adhere to capital management discipline and make return on investment the company's principal goal and it was planning to emphasize copper and platinum-group metals (PGM) in the company portfolio. The company was planning to focus on its Russian assets, in particular its Zapolyarnyi division, and to divest most of its foreign assets and assets not connected with the company's main activities. In the Zapolyarnyi division, Nornickel was focusing on the Skalistyi Mine—a greenfield project with a potential annual capacity of 2.4 Mt/yr of ore—and on modernization of the Talnakh beneficiation plant with the goal of bringing product quality to world standards. Nornickel was also planning to develop exploration as an effective business activity; it intended to double its exploration budget for the Norilsk region in the next few years (MinerJob.ru, 2013n).

Other Russian nickel producers also were affected by financial difficulties because of decreased nickel prices. In May, Yuzhuralnickel (part of OAO Mechel) made a decision to start layoffs. The company stopped production at the plant in October 2012, mothballed equipment, and placed employees on leave while paying them two-thirds of their wages. Mechel was already in negotiations about the sale of Yuzhuralnickel with potential buyers. A similar situation faced the Buruktal'skiy nickel plant, which was located in Svetloye village in Orenburgskaya Oblast'. In March, the administration announced layoffs. The situation in Orenburgskaya Oblast' was aggravated by the fact that the plant's furnace was on the brink of malfunction, but the plant had no funds for repairs (Ershova, 2013; MinerJob.ru, 2013v).

In July, OAO AS Amur received a license for the Norilsk-1 deposit following a series of appeals filed by Nornickel. Previously, in June 2012, it was announced that the exploration and development license for the Norilsk-1 deposit had been won by Russian Platinum Co. (the application was in the name of OAO AS Amur, which was a part of Russian Platinum). Complications with respect to the Norilsk-1 deposit included that the Zapolyarnyi division of Nornickel already had been mining parts of the deposit and, over the years, had developed its own transportation and production infrastructure. Nornickel disputed the decision about the Norilsk-1 deposit in multiple appeals courts, but in the end was unsuccessful. Norilsk-1 is one of the largest deposits on the Taymyr Peninsula; the resources of its southern part contain 378,000 t of copper, 273,000 t of nickel, 12,700 t of cobalt, and about 518 kilograms (kg) of PGMs (Arctic-info.ru, 2013; TASS, 2013).

Tin.—In 2013, Russia produced an estimated 500 t of tin in concentrate, which was a 101% increase compared with production in 2012. The production of tin metal, on the other hand, stopped completely after several years of very low production levels. The Novosibirsk Tin Complex (NOK), which was the only producer of tin metal in Russia, had been in bankruptcy proceedings since 2010. In July 2013, the

regional arbitration court of Novosibirskaya Oblast' made the decision to liquidate the plant. The reason for the liquidation was a perpetual shortage of raw materials that kept the plant from recovering its costs of operation. In the past several years, most tin mines in Russia went out of business. In 2008, Russia had seven tin mines, which together produced 3,300 t of tin in concentrates, but in 2013, only two mines were still in operation. In order to break even, (that is, just recover its costs), NOK needed to process at least 3,000 t/yr of tin. Initially, the liquidation was expected to be accomplished through a sale of the plant as a single property unit. Under such conditions, it was possible that NOK would be purchased by a buyer who would be able eventually to revitalize the plant or that the Government would help keep the plant in operation. The plant's creditors, on the other hand, considered sale of the plant's equipment piece by piece as the only option to recover at least a portion of their investment (MinerJob.ru, 2013c, h; Mineral-Info, 2015c).

Titanium.—In 2013, Russia produced an estimated 46,000 t of titanium sponge, which was a 9.5% increase compared with 2012 production levels. Russia was the second-ranked producer of titanium sponge, and production was mostly from imported raw materials. In 2013, the country imported 120,600 t of ilmenite and rutile concentrates, mostly from Ukraine, but also from Australia, Sierra-Leone, South Africa, and Vietnam. Compared with 2012, imports of titanium concentrates were reduced by almost 25% (Mineral-Info, 2015d).

The leading producer of titanium sponge in Russia was Bereznykovskiy titanium-magnesium complex (BTMK) in Permskiy Kray; the complex was a unit within OAO VSMPO-Avisma Corp. BTMK produced most of Russia's titanium sponge. The OAO Solikamskiy magnesium plant in Permskiy Kray, which was a distant second-ranked producer, produced 1,400 t of titanium sponge in 2013. Both plants supplied their titanium sponge to another unit of VSMPO-Avisma—the Verkhnesaldinskoye metallurgical production complex, which was located in Sverdlovskaya Oblast'; this unit was producing titanium mill products and semifinished products made from titanium alloys. Russia was the world leader in the production and export of titanium products. In 2013, the Verkhnesaldinskoye complex produced 28,860 t of titanium products, which was 10% more than in 2012. VSMPO-Avisma supplied titanium mill products to major world companies involved in building aircraft. It was also the only supplier of titanium metal to the Russian domestic market. In 2013, VSMPO-Avisma supplied 11,640 t of titanium metal to the Russian aviation, aerospace, shipbuilding, energy, oil and gas, and medical equipment industries (Mineral-Info, 2015d).

In 2013, VSMPO-Avisma was planning to start development of the Tsentral'noye titanium-zirconium deposit, which is located in Tambovskaya Oblast'. The administration of the Oblast' estimated that the company would invest a total of between \$300 and \$600 million in the project. The company stated that if the cost were closer to \$600 million, it would need either to find a strategic investor, or to conduct an initial public offering (IPO). In July 2011, VSMPO-Avisma obtained a license for the deposit from GPK Titanium for \$50.1 million. In 2013, VSMPO-Avisma was trying to extend the duration of the license; the company was planning to start production

of ilmenite-zirconium-rutile sands in 2016 and to continue production through 2059, with annual production of 11.4 Mt of titanium-zirconium sands. The deposit's resources were estimated to be 1.6 billion metric tons of ore sand containing 27 Mt of ilmenite, 5.5 Mt of rutile (which together contain 20 Mt of titanium dioxide), and 4.9 Mt of zirconium. The company was planning to start building the first pilot plant in 2014 to scale up production from laboratory settings and recalibrate production parameters. The pilot plant would become a prototype for the full-scale plant that would be constructed later. The company expected to invest about 100 million rubles (\$3.1 million) in the experimental plant (Mineral.ru, 2013h, i).

In December, ZAO Russian Titanium Resources (RusTitan) and the Government of Komi Republic signed an agreement for development of the titanium project at the Pizhemskeye deposit in the Ust-Tsilemsk region. RusTitan was planning to build a mining and metallurgical complex to process titanium ores and quartz sands. The company was planning to invest a total of 30 billion rubles (about \$943 million) and to start mining in 2021. According to the Ministry of Industry of Komi Republic, titanium ore resources of the Pizhemskeye deposit were 2,500 Mt. It was anticipated that the resources were so substantial that the company would be able to mine titanium ores by open pit methods for the next 150 years (Respublika Komi, 2013).

Industrial Minerals

Fluorspar.—In 2013, Russia produced an estimated 30,000 t of fluorspar concentrate, which was a 77% reduction compared with the 2012 production level. The main sources of fluorite in the past several years were two mines in Primorskiy Kray—Voznesenskoye and Pogranichnoye. Both of these deposits are of the fluorite-rare-earth type, which is used for industrial fluorite production in Russia. The main producer of fluorite in Russia was the Yaroslavl'skaya Mining Co. (Yaroslavl'skaya GRK). Practically all the concentrate produced was used at United Company RUSAL's plants for production of aluminum fluoride, which in its turn was used in the production of primary aluminum. RUSAL was also the 100% owner of Yaroslavl'skaya GRK after it purchased the other 50% of Yaroslavl'skaya GRK from the Russian Mining Co. (RGRK). Yaroslavl'skaya GRK was providing 60% of the fluorite concentrate used by RUSAL plants (Mineral-Info, 2015a).

In July, the management of the Yaroslavl'skaya GRK announced that it was planning to conduct a modernization project on the plant and started developing plans to reduce the workforce. The experts reported that the production cost of fluorspar was about 30% higher than that of the imported material, and the product quality was lower, because of the obsolete technology and equipment used. Production at the plant was completely stopped and the plant was mothballed in the middle of September. The company was planning to keep 300 employees working at the plant, and would offer different jobs to others. The workers offered jobs in other regions would be offered compensation related to their relocation. The modernization project was expected to take about 32 months (until May 2016) to be completed (Interfax.ru, 2013; Kommersant.ru, 2013; MinerJob.ru, 2013b, f, u).

Mineral Fuels and Related Materials

Uranium.—In 2013, 68% of all mined uranium was extracted from seven mines in Zabaikal'skiy Kray—Antey, Luchistoye, Malo-Tulukuevskoye, Martovskoye, Oktyabr'skoye, Strel'tsovskoye, and Yubileynoye. All ores extracted from these mines were subjected to initial enrichment and hydrometallurgical processing at the Priargunskoye production mining and chemical complex in the city of Krasnokamensk. The other large-scale producers included ZAO Dalur, which was mining uranium in Kurganskaya Oblast' at the Dalmatovskoye and Khokhlovskoye deposits, using underground leaching, and OAO Khiagda, which was mining the Khiagdinskoye deposit in Buryatiya Republic, also using underground leaching. The production solution obtained by Dalur and Khiagda was processed into uranium concentrate at the mining sites. The majority of companies mining uranium in Russia were united under OAO Atomredmetzoloto (ARMZ) (Mineral-Info, 2015e).

In September, ZAO Dalur received a tax incentive from the Government of Kurganskaya Oblast'. The company was included on the list of priority investment projects and, as a result, Dalur received a 4% reduction in the regional tax rate on profit, its property tax rate was zeroed out for the next 3 years, and it received a 50% reduction from the base rate of the transportation tax. Russia's Federal Government considered underground leaching an effective and environmentally safe method of uranium mining. Dalur was also developing experimental extraction methods for rare earths and scandium from uranium solutions. Overall, the Ministry of Regional Development of the Russian Federation approved advanced technologies and suggested that the region should provide an economic stimulus to the company (Mineral.ru, 2013j; MinerJob.ru, 2013p).

In May, the Government commission that oversees foreign investment in the Russian Federation approved the request of the Republic of Kazakhstan to acquire 25% in the OAO Urals Electric and Chemical Complex (UEKH), which was Russia's leading producer of enriched uranium. The price at which Kazakhstan would be able to complete the purchase was still to be determined; however, experts at NAK Kazatomprom explained that Kazakhstan would pay a proxy market price that would be determined through an independent evaluation. Earlier, it was reported that Kazakhstan might pay between \$400 million and \$500 million to become a UEKH shareholder (Mineral.ru, 2013g).

In November, it was announced that the State Atomic Energy Corp. (Rosatom) and ARMZ planned to postpone investments in the expansion of uranium mining because of low world prices for uranium. The officials stated that all new projects, both in Russia and abroad, would be frozen until uranium prices start rising again. In October 2013, the world price of triuranium octoxide (U_3O_8) was \$35.15 per pound (RIANovosti, 2013).

Outlook

Russia has large reserves of a variety of mineral commodities and most likely will continue to be one of the world's leading mineral producers. In 2013, the country's mineral sector

demonstrated several interesting trends. First, the Government and industry were very concerned about exploration for minerals in the country. This trend was observed both at the level of the Federal Government and through the activities of leading mineral producers, such as Nor Nickel, RUSAL, and VSMPO-Avisma. Second, during lean economic times when commodity prices were low and the costs of energy and raw materials remained high, many producers had to focus on profitability and postpone ambitious development projects, both domestically and abroad. Finally, the Russian Government was becoming more active in regulation of its mineral sector, both at the Federal and at regional levels. If these trends continue for the next several years, Russia's mineral sector is likely to become more resilient to volatile prices of minerals, technology changes, and the cyclic nature of the economy.

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TABLE 1
RUSSIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011	2012	2013	
METALS						
Aluminum:						
Ore and concentrate:						
Alumina	thousand metric tons	2,794	2,930	2,825	2,719	2,600
Bauxite		5,775,000	5,688,000	5,943,000	5,700,000	5,700,000 ^e
Nepheline concentrate, 25% to 30%		500,000	1,000,000	997,000	1,056,700	990,600
Metal, smelter, primary		3,815,000	3,947,000	3,992,000	4,024,000 ^r	3,601,000
Antimony, mine output, recoverable Sb content ^c		3,500	6,040	6,348 ³	7,300	8,700
Arsenic, white ^e		1,500	1,500	1,500	1,500	NA
Bismuth:^c						
Mine output, Bi content		65	50	50	40	40
Metal, refined		12	10	10	8	8
Cadmium, metal, smelter		581	733	800	850 ^e	850
Chromium, chrome ore, marketable		347,000	699,000	662,000	552,000 ^r	552,000
Cobalt:						
Mine output, recoverable Co content ^c		6,100	6,200	6,100	6,300	6,350
Metal, refined		2,352	2,460	2,337	2,186	2,368
Copper:						
Ore, recoverable Cu content ^c		676,000	703,000	856,200 ³	841,800 ^{r,3}	840,000
Metal:						
Blister, smelter:^c						
Primary		580,000	590,000	596,490 ³	621,200 ³	625,000
Secondary		220,000	240,000	242,640 ³	253,800 ³	255,000
Total		800,000	830,000	839,130 ³	875,000 ³	880,000
Refined:						
Primary		612,000	656,000	663,200	665,000 ^r	657,600
Secondary		250,000	218,000	220,400	222,400 ^r	220,000
Total		862,000	874,000	883,600	887,400 ^r	877,600
Gallium ^c		11	11	11	10	10
Gold:						
Mine output, Au content	kilograms	192,832	189,000	199,650	217,800	230,000
Secondary recovery	do.	12,404	12,600	9,334	8,500	17,764
Indium ^c		4	4	13 ^r	13 ^r	13
Iron and steel:						
Iron ore:						
Gross weight		92,000,000	95,900,000	104,000,000	104,000,000	102,000,000
Fe content, 55% to 63% ^e		53,200,000	56,600,000	61,400,000	61,400,000	60,200,000
Metal:						
Pig iron		43,930,000	48,090,000 ^r	47,996,000 ^r	50,459,000 ^r	49,945,000
Direct-reduced iron ^c		4,670,000	4,700,000	4,900,000	5,200,000	5,400,000
Ferrous alloys:						
Blast furnace:^c						
Ferromanganese		175,000 ^r	174,800 ^{r,3}	148,100 ^{r,3}	160,800 ^{r,3}	181,400 ³
Ferrophosphorus		3,000	3,600	3,600	3,600	3,500
Spiegeleisen		6,500	5,500	6,000	6,000	5,500
Electric furnace:						
Ferchromium		377,950 ^r	607,570 ^r	565,900 ^r	546,360 ^r	487,810
Ferchromiumsilicon		100,000 ^{r,e}	102,120 ^r	49,740 ^r	57,450 ^r	58,130
Ferronickel, gross weight:⁴						
High-nickel		17,489	19,763	20,200	23,300 ^e	20,000
Other		14,040	13,165	13,800	13,000 ^e	13,000
Ferroniobium (ferrocolumbium)		500	700	700	700	600
Ferrosilicon		764,700 ^r	920,440 ^r	1,026,170 ^r	1,036,930 ^r	1,012,740

See footnotes at end of table.

TABLE 1—Continued
RUSSIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011	2012	2013	
METALS—Continued						
Iron and steel—Continued:						
Metal—Continued:						
Ferroalloys—Continued: ^e						
Electric furnace—Continued:						
Ferrovandium	6,240 ^{r,3}	7,000 ^{r,3}	7,590 ^{r,3}	8,280 ^{r,3}	10,510 ³	
Silicomanganese	98,700	148,470 ^{r,3}	149,850 ^{r,3}	164,350 ^{r,3}	169,190 ³	
Silicon metal	23,900	48,700	52,000	52,000	50,000	
Ferrotitanium	7,120 ^{r,3}	7,000 ^r	7,000 ^r	7,500 ^{r,3}	8,000	
Other	12,000 ^r	8,000 ^r	9,000 ^r	8,000 ^{r,3}	8,500	
Total, ferroalloys	1,610,000 ^r	2,070,000 ^r	2,060,000 ^r	2,090,000 ^{r,3}	2,030,000	
Steel:						
Crude	59,800,000	66,844,000 ^r	68,114,000 ^r	70,392,000 ^r	68,862,000	
Finished, rolled	51,900,000	55,031,000 ^r	56,492,000 ^r	60,036,000 ^r	59,161,000	
Pipe	6,655,000	9,190,000 ^r	9,979,000 ^r	9,723,000 ^r	10,082,000	
Lead: ^e						
Mine output, recoverable Pb content	70,000	97,000	94,500	92,700	90,000	
Metal, refined, primary and secondary	73,000	122,000 ^r	115,000 ^r	110,000 ^{r,3}	95,400 ³	
Magnesium: ^e						
Magnesite	1,000,000	1,200,000	1,200,000	1,300,000	1,300,000	
Metal, including secondary	29,000	29,000	29,000	31,000	30,000	
Manganese ore, marketable: ^e						
Gross weight	45,000	45,000	30,000 ^r	22,000 ^{r,3}	20,000	
Mn content	9,200	9,200	4,500 ^r	3,256 ^{r,3}	3,000	
Mercury ^e	50	50	50	50	NA	
Molybdenum, in concentrate	4,562	4,495	4,843	4,838 ^r	4,000 ^e	
Nickel:						
Marketable mine production, Ni content:						
Laterite ore	32,298	41,184	34,000	37,700 ^r	35,000 ^e	
Sulfide concentrate	229,493	228,093	231,000	216,400 ^r	215,000 ^e	
Total	261,791	269,277	265,000	254,100 ^r	250,000 ^e	
Matte	100	85	65	1 ^e	--	
Nickel products:						
Metal	255,000	262,400	264,900	255,000	248,000	
Chemicals ^e	2,700	2,900	2,900	2,900	2,600	
Total	257,700	265,300	267,800	257,900	250,600	
Niobium (columbium) ^e	kilograms	150	150	150	150	NA
Platinum-group metals:						
Platinum	do.	25,900	25,700	27,300	26,500 ^r	26,000
Palladium	do.	83,200	84,700	84,100	81,700 ^r	81,000
Other	do.	47,200 ^r	46,500 ^r	46,000 ^r	45,200 ^r	44,500
Total	do.	156,300 ^r	156,900 ^r	157,400 ^r	153,400 ^r	151,500
Rhenium ^e	do.	500	500	500	500	NA
Selenium ^e	do.	140,000	140,000	140,000	145,000	140,000
Silicon ^e		1,000,000	1,000,000	1,031,000 ³	1,043,000 ³	1,100,000
Silver:						
Mine output, Ag content	kilograms	1,590,000	1,545,000	1,200,000 ^r	1,500,000 ^r	1,600,000
Secondary recovery	do.	22,800 ^r	40,810 ^r	39,300 ^r	40,000 ^r	50,000 ^e
Tin: ^e						
Mine output, recoverable Sn content		127 ³	144 ³	75 ³	249 ^{r,3}	500
Metal, smelter:						
Primary		1,129 ³	1,081 ³	526 ³	650 ^r	--
Secondary		300	300	200	250 ^r	--
Total		1,400	1,400	700	900 ^r	--

See footnotes at end of table.

TABLE 1—Continued
RUSSIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011	2012	2013
METALS—Continued					
Titanium sponge	22,600	26,500	24,600	42,000	46,000
Tungsten, concentrate, W content	2,665	2,785	3,314	3,025	3,600 ^e
Vanadium, metal ^c	14,500	15,000	12,860 ³	14,856 ³	15,000
Zinc:					
Mine output, recoverable Zn content	241,700	186,900	176,300	179,800	157,000
Metal, smelter, primary and secondary	227,000	248,600	255,600	250,000 ^r	222,100
Zirconium, baddeleyite concentrate, averaging 98% ZrO ₂	8,249	9,308	8,914	7,969 ^r	8,000 ^e
INDUSTRIAL MINERALS					
Asbestos, grades I through VI	1,000,000 ^e	995,174	1,031,880	1,050,000 ^e	1,100,000
Barite ^c	63,000	60,000	63,000	63,000	70,000
Boron ^c thousand metric tons	300	200	200	250	250
Cement, hydraulic	44,266,000	50,400,000	56,200,000	61,700,000	66,503,000
Clays:					
Bentonite	500,000	500,000	500,000	550,000	550,000 ^e
Kaolin concentrate	90,300	105,000	120,000	120,000 ^e	120,000 ^e
Diamond: ^c					
Gem carats	17,791,400 ³	17,800,000	20,140,000	19,900,000	20,000,000
Industrial do.	15,000,000	15,000,000	15,000,000	15,000,000	16,000,000
Synthetic do.	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000
Total do.	113,000,000	113,000,000	115,000,000	115,000,000	116,000,000
Diatomite	30,000	32,000	33,000	70,000	70,000
Feldspar ^e	45,000	45,000	45,000	45,000	NA
Fluorspar, concentrate, 55% to 96.4% CaF ₂	127,300 ^r	67,000 ^r	119,800 ^r	129,000 ^r	30,000 ^e
Germanium ^c	2	5 ³	5	5	5
Graphite	14,000	14,000	15,000 ^r	14,000	15,000
Gypsum	2,900,000	3,349,000 ^r	3,907,000 ^r	4,179,000 ^r	4,223,000
Iodine ^c	250,000	230,000	210,000	200,000	200,000
Lime, industrial and construction ^e	7,000,000	9,500,000	10,100,000	10,800,000	10,902,000 ³
Limestone	7,000,000 ^e	7,000,000 ^e	7,000,000 ^e	7,200,000	7,400,000
Mica ^c	100,000	100,000	100,000	100,000	NA
Nitrogen, N content of ammonia	10,441,000	10,902,000 ^r	11,418,000 ^r	11,345,000	11,836,000
Perlite ^c cubic meters	200,000	200,000	200,000	200,000	NA
Phosphate rock: ^c					
Gross weight	9,500,000	11,000,000	11,000,000	12,500,000	12,500,000
P ₂ O ₅ content	3,500,000	4,000,000	4,000,000	4,500,000	4,500,000
Potash, marketable, K ₂ O equivalent	3,727,000	6,283,000	6,498,000	5,563,000	6,100,000
Rare earths, total rare-earth oxides	2,600	2,300	2,500	2,100 ^r	2,100 ^e
Salt, all types	1,600,000	1,800,000	1,800,000	1,850,000	1,900,000
Soda ash	2,322,000	2,670,000	2,822,000	2,807,000	2,477,000
Sulfur: ^c					
Native	50,000	77,700 ^{r,3}	68,600 ^{r,3}	68,900 ^{r,3}	123,000 ³
Pyrites	200,000	200,000	200,000	200,000	200,000
Byproduct:					
From metallurgy	100,000	100,000	200,000	300,000	300,000
From natural gas	6,000,000	6,337,000 ^{r,3}	6,488,000 ^{r,3}	6,416,000 ^{r,3}	5,977,000 ³
From petroleum	600,000	600,000	600,000	700,000	700,000
Total	6,950,000	7,310,000 ^r	7,560,000 ^r	7,680,000 ^r	7,300,000
Sulfur, sulfuric acid	8,600,000	10,200,000	10,700,000	11,036,000 ^r	10,298,000
Talc ^c	160,000	160,000	160,000	160,000	NA
Vermiculite ^c	25,000	25,000	25,000	25,000	NA

See footnotes at end of table.

TABLE 1—Continued
 RUSSIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011	2012	2013	
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Anthracite	thousand metric tons	7,100	8,700	10,000	11,400	12,800
Bituminous	do.	200,982	236,100	249,100	276,500	265,200
Lignite	do.	69,011	76,800	76,900	69,100 ^r	73,000
Total	do.	277,093	321,600	336,000	357,000 ^r	351,000
Coke, metallurgical, 6% moisture content	do.	24,200	26,800	26,800	26,900	25,900
Natural gas, marketed	million cubic meters	583,610	651,000	671,000	655,000	608,000
Peat, horticultural and fuel uses ^e		1,200,000	1,258,000 ³	1,337,000 ³	1,200,000 ^r	1,500,000
Petroleum:						
Crude:						
In gravimetric units		479,000,000	506,000,000 ^r	512,000,000 ^r	519,000,000 ^r	522,000,000
In volumetric units	thousand 42-gallon barrels	3,590,000	3,530,000	3,578,000	3,615,000	3,636,000
Refinery products:						
In gravimetric units		237,000,000	250,000,000	258,000,000	272,000,000 ^r	281,000,000
In volumetric units	thousand 42-gallon barrels	1,910,000	2,010,000	2,080,600	2,185,500	2,258,000
Uranium:						
U content		3,564	3,562	2,993	2,862	8,400
U ₃ O ₈ content		4,203	4,200	3,502	3,348	9,830

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. NA Not available -- Zero.

¹Table includes data available through February 28, 2015.

²In addition to the commodities listed, Russia produces a number of other mineral commodities, which include lithium, oil shale, scandium, tantalum, titanium ore, and vanadium ore, but available information is inadequate to make reliable estimates of output.

³Reported figure.

⁴Excludes nickel-chromium remelt alloy produced from scrap. The remelt alloy typically has a nickel content of 20% to 50%.

TABLE 2
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e
Alumina	Achinsk (United Company RUSAL)	Achinsk in eastern Siberia	900,000
Do.	Bogoslovsk (United Company RUSAL)	Krasnotur'insk	1,050,000
Do.	Boksitogorsk (United Company RUSAL)	Leningradskaya Oblast'	200,000
Do.	Pikalyovo (United Company RUSAL)	Pikalyovo	300,000
Do.	Uralsk (United Company RUSAL)	Kamensk-Uralskiy	700,000
Aluminum, primary smelters	Bogoslovskiy AZ (United Company RUSAL)	Krasnotur'insk	175,000
Do.	Bratskiy AZ (United Company RUSAL)	Bratsk	1,000,000
Do.	Irkutskiy AZ (United Company RUSAL)	Irkutskaya Oblast'	420,000
Do.	Kandalakskiy AZ (United Company RUSAL)	Kola Peninsula	75,000
Do.	Khakasskiy AZ (United Company RUSAL)	Khakasiya	300,000
Do.	Krasnoyarskiy AZ (United Company RUSAL)	Krasnoyarskiy Krai	1,000,000
Do.	Nadvoitskiy AZ (United Company RUSAL)	Nadvoitsy, Kareliya Republic	75,000
Do.	Novokuznetskiy AZ (United Company RUSAL)	Novokuznetsk	300,000
Do.	Sayanogorskiy AZ (United Company RUSAL)	Sayanogorsk	550,000
Do.	Uralskiy AZ (United Company RUSAL)	Kamensk-Uralskiy	150,000
Do.	Volgogradskiy AZ (United Company RUSAL)	Volgogradskaya Oblast'	175,000
Do.	Volkhovskiy AZ (United Company RUSAL)	Volkhov, east of St. Petersburg	20,000
Amber	Kaliningrad Amber enterprise (Kaliningrad regional authorities and Alrosa Co. Ltd.)	Kaliningrad Oblast'	250
Antimony:			
Sb content of concentrate	GeoProMining, Ltd. (GPM)	Sarylakh deposit, Ust'-Nera region, Sakha Republic (Yakutiya)	8,000 ²
Do.	do.	Sentachan deposit, Northeastern Sakha Republic (Yakutiya)	NA
Do.	Zabaykal'skiy GOK (ZabGOK) (OOO NefteChimMash)	Zabaykal'skiy Krai	360,000
Compounds and metals	Ryazsvetmet plant	Ryazanskaya Oblast'	NA
Apatite, concentrate	Khibiny apatite association (OAO Apatit)	Kola Peninsula	15,000,000
Do.	Kovdor iron ore mining association	do.	700,000
Asbestos	Bazenovskoye chrysotile deposit	Sverdlovskaya Oblast'	NA
Do.	Molodeznoye deposit	Zabaykal'skiy (Chita) Krai	NA
Do.	"Orenburg Minerals" Co., Kiembraevskoye chrysotile deposit	Orenburgskaya Oblast'	500,000
Do.	"Tuvaasbest" plant, Ak-Dovurakskoye chrysotile deposit	Tuva Republic	250,000
Do.	"Uralasbest" mining and clarification plant	Central Urals	1,100,000
Barite	Salarinskiy mining and beneficiation complex	Kvartsitovaya Sopka deposit	100,000
Bauxite	OAO Sevuralboksitruda (United Company RUSAL)	Severoural'sk region	NA
Do.	South-Urals mining company (United Company RUSAL)	South Urals	NA
Do.	Severnaya Onega Mine (United Company RUSAL)	Northwest region	800,000
Do.	Komi Aluminum (United Company RUSAL)	Sredne-Timanskiy	3,000,000
Boron, boric acid	Bor Association	Primorskiy Krai	140,000
Do.	Amur River complex	Russian Far East	8,000
Do.	Alga River chemical complex	do.	12,000
Chromite	Saranov complex	Saranovskiy	200,000
Coal	Donetskiy (east) basin	Rostovskaya Oblast'	30,000,000
Do.	Irkutskiy basin	Irkutskaya Oblast'	NA
Do.	Kansko-Achinskiy basin	Eastern Siberia	50,000,000
Do.	thousand metric tons Kuznetskiy basin (Kuzbass)	Western Siberia	160,000
Do.	Lenskiy basin	Sakha Republic (Yakutiya)	NA
Do.	Minusinskiy field	Khakasiya Republic	NA
Do.	Moskovskiy basin	Moscow region	15,000,000
Do.	Neryungri basin	Sakha Republic (Yakutiya)	15,000,000
Do.	Pechorskiy basin	Komi Republic	30,000,000

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e
Coal—Continued		South Yakutiya basin	Sakha Republic (Yakutiya)	17,000,000
Do.		Ulughemskiy basin	Tyva Republic	NA
Do.		Yuzhno-Yakutskiy basin	Sakha Republic (Yakutiya)	NA
Cobalt		OJSC MMC Norilsk Nickel (Normickel)	Norilsk, Kola Peninsula	4,000
Do.		Rezh and Yuzhuralnikel enterprises	South Urals	2,100
Do.		Ufaleynikel Co.	Chelyabinskaya Oblast, Urals	4,000
Do.		Khovu-Aksynskoe (nickel-cobalt) deposit	Khovu-Aksy, Tyva Republic	NA
Copper:				
Cu in concentrate		OJSC MMC Norilsk Nickel (Normickel)	Norilsk region, Kola Peninsula	500,000
Do.		ZAO Russkaya Mednaya Kompaniya (RMK)	Urals	70,000
Do.		Metalloinvest Holding	Udokan, Zabaykal'skiy Kray	NA
Do.		OAO Ural'skaya Gorno-Metallurgicheskaya Kompaniya (UGMK)	do.	230,000
Metal, refined		OJSC MMC Norilsk Nickel (Normickel)	Norilsk region, Kola Peninsula	450,000
Do.		ZAO Russkaya Mednaya Kompaniya (RMK)	Urals	170,000
Do.		OAO Ural'skaya Gorno-Metallurgicheskaya Kompaniya (UGMK)	do.	360,000
Diamond, gem and industrial	thousand carats	Almazy Rossii-Sakha Joint Stock Co. (Alrosa Co. Ltd.) enterprises: Udachnyy mining and beneficiation complex	Sakha Republic (Yakutiya) mines: Zarnitsa and Udachnyy	NA
Do.	do.	Mirny mining and beneficiation complex	Mir and International	NA
Do.	do.	Aikhal mining and beneficiation complex	Aikhal and Komsomol'skiy	NA
Do.	do.	Anabaraskiy mining and beneficiation complex	Alluvial mines	NA
Do.	do.	Nyurbinskiy mining and beneficiation complex	Nyurbinskiy and Botuobinskiy	NA
Do.	do.	Lomonosov	Arkhangel'skaya Oblast'	NA
Feldspar		Kheto-Lanbino and Lupikko deposits	Kareliya Republic	NA
Ferroalloys		ChEMK Industrial Group enterprises:		
Do.		Chelyabinsk electrometallurgical plant	Chelyabinskaya Oblast'	450,000
Do.		Kuznetsk ferroalloys plant	Novokuznetsk	400,000
Do.		Chusovoy iron and steel plant	Permskiy Kray	NA
Do.		Klyuchevsk ferroalloy plant	Dvurechensk	160,000
Do.		Kosaya Gora iron works	Kosaya, Gora	200,000
Do.		Lipetsk iron and steel works	Lipetskaya Oblast'	NA
Do.		Serov ferroalloy plant [a subsidiary of Eurasian Natural Resources PLC (ENRC)]	Sverdlovskaya Oblast'	NA
Ferronickel		Ufaleynikel Co.	Chelyabinskaya Oblast', Urals	NA
Ferrovandium		Vanadii-Tulachermet (Evraz Group)	Tula, North Caucasus	NA
Fluorspar		Abagaytuy deposit	Transbaikal	NA
Do.		Usugli Mine	do.	NA
Do.		Kyaktinsky deposit	do.	NA
Do.		Kalanguy mining complex	Zabaykal'skiy Kray	NA
Do.		Yaroslavskiy mining and beneficiation complex	Pogranichnoye and Vosnesenskoye deposits, Primorskiy Kray	NA
Gallium		Achinsk (United Company RUSAL)	Achinsk in eastern Siberia	15 ²
Do.		OOO Gallyy	NA	NA
Do.		Novosibirsk tin complex	Novosibirsk	NA
Do.		Pikalevo (United Company RUSAL)	Pikalevo	NA
Germanium, metal and products		Federal State Unitary Enterprise Germanium	Kranoyarsk	7
Gold	kilograms	Mining companies: ZAO Amur a/s	Mining regions: Khabarovskiy Kray	5,500
Do.	do.	OAO Buryatzoloto	Buryatiya Republic	5,000
Do.	do.	ZAO Chukotskaya Mining and Geological Co. (Chukotskaya GGK)	Chukotskiy Avtonomnyy Okrug	15,000
Do.	do.	OOO Mining and Geological Co. (GRK) Aldanzoloto	Sakha Republic (Yakutiya)	4,000
Do.	do.	Highland Gold Mining Ltd. (HGM)	Khabarovskiy and Zabaykal'skiy Kray	NA

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c
Gold—Continued		Mining companies—Continued	Mining regions—Continued	
Do.	kilograms	Kinross Gold Corp.	Chukotskiy Avtonomnyy Okrug	NA
Do.	do.	LT-Resurs, ZAO	Irkutskaya Oblast'	2,700
Do.	do.	OOO Neryungri-Metallik	Sakha Republic (Yakutiya)	1,500
Do.	do.	OOO Nirungan	do.	1,100
Do.	do.	OAo Omchak	Magadanskaya Oblast'	3,000
Do.	do.	OAo Omolonskaya ZRK	do.	5,000
Do.	do.	ZAO Omsukchanskaya GGK	do.	3,000
Do.	do.	Oyna, a/s	Tyva Republic	1,500
Do.	do.	Petropavlovsk plc	Petropavlovsk	23,000
Do.	do.	OAo Pokrovskiy Mine	Amurskaya Oblast'	6,000
Do.	do.	OAo Polimetal	Magadanskaya and Sverdlovskaya Oblast's, Khabarovskiy Kray	7,500
Do.	do.	Polyarnaya, a/s	Chukotskiy Avtonomnyy Okrug	1,000
Do.	do.	OAo Polyus Gold	Krasnoyarskiy Kray	50,000
Do.	do.	OOO Priisk Drazhnyy	do.	1,200
Do.	do.	OAo Priisk Solov'yevskiy	Amurskaya Oblast'	1,500
Do.	do.	OOO Ros-DV	Khabarovskiy Kray	1,100
Do.	do.	OOO Russdragmet	Khabarovskiy Kray, Zabaykal'skiy Kray	6,000
Do.	do.	OAo Seligdar	Sakha Republic (Yakutiya)	3,000
Do.	do.	Severstal Nordgold NV	Russia, Kazakhstan	10,200
Do.	do.	OOO Sovrudnik	Krasnoyarskiy Kray	3,900
Do.	do.	OAo Susumanzoloto	Magadanskaya Oblast'	3,000
Do.	do.	OAo Uralelktomed'	Sverdlovskaya Oblast'	1,400
Do.	do.	Vitim, a/s	Irkutskaya Oblast'	2,900
Do.	do.	Vostok, a/s	Khabarovskiy Kray	1,100
Do.	do.	OOO Vysochayshiy (GV Gold)	Irkutskaya Oblast' and Sakha Republic (Yakutiya)	5,500
Do.	do.	OOO Yuzhuralzoloto	Chelyabinskaya Oblast'	6,500
Do.	do.	Zapadnaya, a/s	Krasnoyarskiy Kray	1,900
Do.	do.	ZAO Zolotaya, ZDK	Khakasiya Republic	1,200
Indium:				
Primary		Chelyabinsk zinc plant	Chelyabinskaya Oblast'	6
Secondary		Elektrozink plant	Vladikavkaz, North Caucasus	6
Iron ore		Kursk Magnetic Anomaly (KMA) region, which contains the following enterprises:	Locations:	50,000,000 ²
		Lebedi and Stoilo	Gubkin	
		Mikhaylovka	Zheleznogorsk	
Do.		Northwest region, which contains the following enterprises:	Locations:	22,000,000 ²
		Kostomuksha	Kostomuksha	
		Kovdor	Kola Peninsula	
		Olenegorsk	Olenegorsk	
Do.		Siberia region, which contains the following enterprises:	Locations:	18,000,000 ²
		East:		
		Korshunovo	Zheleznogorsk	
		Rudnogorsk	Rudnogorsk	
		West:		
		Abakan	Abaza	
		Sheregesh	Sheregesh	
		Tashtagol	Tashtagol	
		Teya	Vershina Tei	

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c	
Iron ore—Continued	Urals region, which contains the following enterprises: Akkermanovka Bakal Goroblagodat Kachkanar Magnitogorsk Peshchanka	Locations: Novotroitsk Bakal Kushva Kachkanar Magnitogorsk Rudnichnyy	22,000,000 ²	
Lead, metal	Dalpolymetal lead smelter	Rudnaya in Primorskiy Kray	20,000	
Do.	Elektrozink lead smelter [Ural Mining and Metallurgical Co. (UMMC)]	Vladikavkaz, North Caucasus	40,000	
<u>Lead-zinc, recoverable content of ore:</u>				
Lead, recoverable Pb content of ore	Altay mining-beneficiation complex	Altay Kray, southern Siberia	2,000	
Do.	Dalpolymetal mining-beneficiation complex	Primorskiy Kray	20,000	
Do.	Nerchinsk polymetallic complex	Zabaykal'skiy Kray	7,000	
Do.	Sadon lead-zinc complex	North Ossetia	5,000	
Do.	Salair mining-beneficiation complex	Kemerovskaya Oblast'	2,000	
Zinc, recoverable Zn content of ore	Altay mining-beneficiation complex	Altay Kray, southern Siberia	1,000	
Do.	Dalpolymetal mining-beneficiation complex	Primorskiy Kray	25,000	
Do.	Nerchinsk polymetallic complex	Zabaykal'skiy Kray	12,500	
Do.	Sadon lead-zinc complex	Severnaya Osetiya	14,000	
Do.	Salair mining-beneficiation complex	Kemerovskaya Oblast'	10,500	
Limestone	Mazulsky Mine (United Company Rusal)	Goryachegorsk massif, eastern Siberia	NA	
Lithium and its compounds	JSC Novosibirsk Chemical Plant (TVEL Corp.)	Novosibirsk	NA	
Do.	JSC Chemical-Metallurgical Plant (TVEL Corp.)	Kransnoyarsk	NA	
Magnesite	Karagayskiy open pit (Magnezit Group) and Magnezitovaya underground mine (Magnezit Group)	Sakha group of deposits (Chelyabinskaya Oblast')	3,800,000 ²	
Magnesium, metal (for sale)	Avisma plant	Berezniki	35,000	
Do.	Solikamsk plant (Uralkali)	Permskiy Kray	30,000	
Mica	Emel'dzhak deposit, Aldan Shield	Sakha Republic (Yakutiya)	NA	
Do.	Lopatova Guba mica pit, Northern Kareliya	Kareliya Republic	NA	
Do.	Kovdor phlogopite Mine (Mica Mine; Slyuda Mine; Kovdorslyuda Shaft)	Kola Peninsula, Murmanskaya Oblast'	NA	
Do.	Irkutsk complex (JSC "Vostoksluda")	Mam deposit, Irkutskaya Oblast'	NA	
Molybdenum	Dzhida tungsten-molybdenum mine	West Transbaikal	NA	
Do.	Sorsk molybdenum mining enterprise	Khakasiya Republic	NA	
Do.	Tyrnyauz tungsten-molybdenum mine [OAO Kabardino-Balkarskaya Tungsten-Molybdenum Co. (Government of Kabardino-Balkarskaya Republic)]	Republic of Kabardino-Balkariya, North Caucasus	NA	
Do.	Shakhtaminskoye molybdenum mining enterprise	Zabaykal'skiy Kray	NA	
Natural gas	million cubic meters	Komi Republic	8,000	
Do.	do.	Norilsk area	Norilsk region and Kola Peninsula	5,500
Do.	do.	North Caucasus	North Caucasus	6,000
Do.	do.	Sakhalin	Russian Far East	2,000
Do.	do.	Tomsk Oblast	Western Siberia	500
Do.	do.	Tyumen Oblast, of which:	do.	575,000 ²
Do.	do.	Medvezhye field	do.	(75,000)
Do.	do.	Urengoy field	do.	(300,000)
Do.	do.	Vyngapur field	do.	(17,000)
Do.	do.	Yamburg field	do.	(170,000)
Do.	do.	Bovanenko field	Yamal Peninsula	NA
Do.	do.	Pestovoyy field	Ob-Taz Gulf area	NA
Do.	do.	Zapolyarnyy field	do.	NA
Do.	do.	Shtokmanov field	Barents Sea	NA

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c
Natural gas— Continued	Urals	Ural'skiye Gory	45,000
Do.	Volga	Vologodskaya Oblast'	6,000
Do.	Yakut-Sakha	Sakha Republic (Yakutiya)	1,500
Nepheline syenite	Apatite complex	Kola Peninsula	1,500,000
Do.	Kiya-Shaltyr Mine (United Company RUSAL)	Goryachegorsk massif, eastern Siberia	NA
Nickel:			
Ni in ore	OJSC MMC Norilsk Nickel (Normickel)	Kola Peninsula and Norilsk region	300,000
Do.	OAO Ufaleynikel [Koks Company of Industrial Metallurgical Holding]	Chelyabinskaya Oblast', Urals	17,000
Do.	OAO Yuzhuralnikel [OAO Mechel]	South Urals	3,000
Metal:			
Smelting	OJSC MMC Norilsk Nickel (Normickel)	Norilsk region, Kola Peninsula	160,000
Do.	do.	Pechenga	50,000
Do.	do.	Monchegorsk	50,000
Refining	do.	do.	140,000
Do.	do.	Norilsk region, Kola Peninsula	100,000
Ni products and Ni in FeNi	Enterprises: ZAO Rezhnickel [Ural Mining and Metallurgical Co. (UMMC)] OAO Ufaleynikel [Koks Industrial Metallurgical Holding Co.] Yuzhuralnikel [Mechel OAO]	Location: South Urals do. do.	65,000 ²
Niobium (columbium)	Karnarsurt mining enterprise (AO Sevredmet)	Lovozerkoye deposit, Kola Peninsula	12,000
Oil shale	Leningradslanets Association	Slantsy, Leningradskaya Oblast'	5,000,000
Petroleum	Bashneft'	Bashkortostan Republic	12,000,000
Do.	Gazprom Neft'	Deposits throughout Russia	50,000,000
Do.	OAO Lukoil	West Siberian deposits: Kechimovskoye Nivagalskoye Urals deposits Volga region Timen Pechora deposit: Yuzhnaya Khylochuya Komi Republic deposits: Kyrtaevskoye Pashshorskoye Perevoznoye	100,000,000 ²
Do.	OAO Novatek	Western Siberia	5,000,000
Do.	OAO NK Rosneft'	Deposits throughout Russia	120,000,000
Do.	Russneft'	Central and western Siberia, Urals and Volga regions	15,000,000
Do.	Slavneft'	Western Siberia and Krasnoyarskiy Kray	20,000,000
Do.	OAO Surgutneftegas	Khanty-Mansiyskiy Avtonomny Okrug (HMAO)	60,000,000
Do.	Tatneft'	Deposits: Romashkinskoye Novo-Elkhovskoye Bavlinskoye Bondyuzskoye Pervomayskoye Sabandchinskoye	30,000,000 ²

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^e
Petroleum—Continued	OAo TNK–BP Holding	Deposits: Kamennoye Kovyatka Russkoye Suzunskoye Tagulskoye Uvat Verkhnechonsk	80,000,000 ²
Phosphate rock	Kingisepp complex (OAo Fosforit)	Leningradskaya Oblast'	3,500,000
Do.	Lopatino and Yegorevsk deposits	Moscow Oblast'	NA
Do.	Polpinskoye deposit	Bryanskaya Oblast'	NA
Do.	Verkhnekamsk deposit	Urals	NA
Phosphate rock, apatite concentrate	OAo Apatit (Phosagro)	Kola Peninsula	12,000,000
Do.	Kovdor iron mining complex	do.	700,000
Platinum-group metals:			
Ore, PGM content	OJSC MMC Norilsk Nickel	Norilsk region, Kola Peninsula	150
Do.	AO Koryakgeoldobycha, Amur Prospectors	Placer deposits (mostly platinum), Urals; Siberia; Russian Far East	10
Do.	Lopatino and Yegorevsk deposits	Moscow Oblast'	NA
Do.	Polpinskoye deposit	Bryanskaya Oblast'	NA
Do.	Verkhnekamsk deposit	Ural'skiye Gory	NA
Do.	OAo AS Amur (Russian Platinum Co.)	Placer deposits (mostly platinum), Urals; Siberia; Russian Far East	10
Metals	Krasnoyarsk Nonferrous Metals Plant (Kratsvetmet)	Krasnoyarskiy Kray	NA
Do.	Ekaterinburgskiy plant (EZOTsM)	Sverdlovskaya Oblast'	NA
Do.	Priobsk plant (OJSC Gazprom Neft)	Khanty-Mansiyskiy Avtonomnyy Okrug (HMAO)	NA
Potash, K ₂ O equivalent	OAo Uralkali	Verkhnekamskoye deposit	8,000,000
Do.	OAo Silvinit ³	Solikamsk-Berezniki regions, Urals	NA
Do.	OAo Akron	Novgorod	NA
Rare earths	OAo Apatit	Lovozerkoye deposit, Kola Peninsula	NA
Salt	AO Bassol'	Lake Baskunchak in Astrakhanskaya Oblast'	2,500,000
Do.	Dus-Dagskoe deposit	Dus-Dag Mountains	25,000
Silver	Dukat Mine	Magadanskaya Oblast'	1,000
Do.	Kinross Gold Corp.	Chukotskiy Avtonomnyy Okrug	NA
Soda ash	Achinsk plant	Eastern Siberia	595
Do.	Berezniki plant	Ural'skiye Gory	1,080
Do.	Pikalevo plant	Leningradskaya Oblast'	200
Do.	Sterlitamak plant	Bashkortostan Republic	2,135
Do.	Volkhov plant	Leningradskaya Oblast'	20
Steel, crude	OAo Amurmetal	Komsomol'sk-na-Amure	1,600,000
Do.	JSC Asha Metallurgical Plant	Chelyabinskaya Oblast'	450,000
Do.	Beloretsk Iron and Steel Works	Bashkirskoye	380,000
Do.	Chusovskoy Iron and Steel Works	Permskiy Kray	570,000
Do.	JSC Electrostal Metallurgical Plant	Moscow	314,000
Do.	Gorkovskoy Metallurgichesky Zavod	Nizhegorodskaya Oblast'	78,000
Do.	Gur'yevsk Steel Works	Kemerovskaya Oblast'	160,000
Do.	Karaganda	Karagandinskaya Oblast'	6,300,000
Do.	Kuznetsk Steel Works	Kemerovskaya Oblast'	4,700,000
Do.	Lys'va Metallurgical Plant	Permskiy Kray	350,000
Do.	OAo Magnitogorsk mining and metallurgical complex (MMK)	Chelyabinskaya Oblast'	16,200,000

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c
Steel, crude—Continued	AO Mechel (Mechel)	Chelyabinskaya Oblast'	7,000,000
Do.	Nizhniy Sergi Steel Works	Sverdlovskaya Oblast'	300,000
Do.	Nizhniy Tagil mining and metallurgical complex (NTMK) (Evraz Group)	do.	8,000,000
Do.	Nosta JSC (JSC Orsk-Kahlilovo Iron and Steel Works)	Novotroitsk, Orenburgskaya Oblast'	4,600,000
Do.	Novolipetskiy mining and metallurgical complex (NLMK)	Lipetskaya Oblast'	9,900,000
Do.	Novosibirsk Steel Works (Novosibprokat)	Novosibirskaya Oblast'	1,100,000
Do.	CJSC Omutninsk Metallurgical Plant	Kirovskaya Oblast'	210,000
Do.	Oskol Electric Steel Works (OEMK)	Staryi Oskol	2,500,000
Do.	Petrovsk-Zabaykal'skiy Steel Works	Petrovsk-Zabaykal'skiy	426,000
Do.	Revdinskiy Steel and Wire Production Works	Sverdlovskaya Oblast'	281,000
Do.	Salda Steel Works	do.	1,900
Do.	Serov Steel Works	do.	1,000,000
Do.	Serp i Molot (Moscow Metallurgical Works)	Moskovskaya Oblast'	70,000
Do.	Severskiy Tube Works	Polevskoy, Sverdlovskaya Oblast'	825,000
Do.	AO Severstal	Vologodskaya Oblast'	14,000,000
Do.	Sibelektrostal Metallurgical Works	Krasnoyarskiy Kray	110,000
Do.	Sulinskiy Steel Works (Staks)	Rostovskaya Oblast'	280,000
Do.	Taganrog Iron and Steel Works (Tagmet)	do.	925,000
Do.	AO Tulachermet	Tul'skaya Oblast'	18,400
Do.	Viz-Stal (Verkh-Isetsk Steel Works)	Sverdlovskaya Oblast'	132,000
Do.	Volgograd Steel Works (Red October)	Volgogradskaya Oblast'	2,000,000
Do.	Vyksa Steel Works	Nizhegorodskaya Oblast'	540,000
Do.	Zapadno-Sibirskiy mining and metallurgical complex (ZSMK) (Evraz Group)	Kemerovskaya Oblast'	6,900,000
Do.	Zlatoust Iron and Steel Works	Zlatoust, Chelyabinskaya Oblast'	1,200,000
Talc	Onotsk deposit	Irkutskaya Oblast'	NA
Do.	Kirgiteysk deposit	Krasnoyarskiy Kray	NA
Do.	Miass deposit	Chelyabinskaya Oblast'	NA
Do.	Shabrovs deposit	Sverdlovskaya Oblast'	NA
Tantalum, ore	Facilities: Zabaykalskiy mining and beneficiation complex NA	Deposits: Etykinskoye deposit Lovozerkoye deposit, Kola Peninsula	10 ²
Tellurium	OJSC MMC Norilsk Nickel	NA	5
Do.	Ural Mining and Metallurgical Co. (UMMC)	Urals	35
Tin:	Novosibirsk mining and beneficiation complexes:	Locations:	
Ore	Khinganskoye olovo (Jewish Autonomous District)	Khabarovskiy Kray	11 ⁴
Do.	Tin Ore Co.	Solnechnyi deposit, Khabarovskiy Kray	NA
Do.	Pravourmiyskoye	Khabarovskiy Kray	NA
Do.	Deputatskiy (Sakhaolovo)	Sakha Republic (Yakutiya)	NA ⁴
Do.	Vostokolovo	Russian Far East	NA ⁴
Do.	Iultin mining and beneficiation complex	Magadanskaya Oblast'	NA ⁴
Do.	Khrustalnyy mining and beneficiation complex	Primorskiy Kray	NA ⁴
Do.	Pevek mining and beneficiation complex	Magadanskaya Oblast'	NA ⁴
Metal	Novosibirsk Processing Plant Ltd.	Novosibirskaya Oblast'	NA ⁴
Titanium:			
Ore	OOO Lovozerskiy GOK	Murmanskaya Oblast	NA
Do.	AO Apatit	Kyvisumchorrskoye and Yuksporskoye deposits	NA
Do.	AO TGOK Ilmenit	Tyuganskoye deposit	NA
Do.	OOO Olekminskiy Rudnik	Kuranakhskoye deposit	NA

See footnotes at end of table.

TABLE 2—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c
Titanium—Continued:			
Metal	Moscow plant	Moscow	NA
Do.	Podol'sk plant	Podol'sk	NA
Do.	AO Corp. VSMPO-Avisma	Bereznikovskiy Complex, Permskiy Kray	NA
Sponge	do.	do.	40,000
Do.	Solikamskiy Magnium Plant (SMZ)	Solikamsk, Permskiy Kray	NA
Tungsten:			
Concentrates, W content	AS Quartz	Bom-Gorkhom deposit, West Transbaikal, Zabaykal'skiy Kray	NA
Do.	ZAO Novoorlovskiy GOK	Spokoyninskoye deposit, Zabaykal'skiy Kray	NA
Do.	KGUP Primteploenergo	Lermontovskoye deposit, Primorskiy Kray	NA
Do.	AO Primorsky GOK	Vostok-2 deposit	NA
Do.	ZAO Zakamensk	Ruchey Inkur deposit, Barun-Narynskoye deposit	NA
Do.	Tyrnyauz tungsten-molybdenum mine [AO Kabardino-Balkarskaya Tungsten-Molybdenum Co. (Government of Kabardino-Balkarskaya Republic)]	Republic of Kabardino-Balkariya, North Caucasus	NA
Metal	Gidrometallurg plant	do.	NA
Uranium, U content	Uranium Holding AO Atomredmetzoloto (ARMZ) ZAO Dalur mining enterprise AO Khiagda mining enterprise Priargunsky mining and chemical enterprise	Locations: Kurganskaya Oblast' Buryatiya Republic Krasnokamensk, Zabaykal'skiy Kray	NA
Vanadium:			
Ore	Kachkanar iron mining complex	Ural'skiye Gory	NA
Metal	Chusovoy and Nizhniy Tagil plants	do.	17,000
Pentoxide	Vanadii-Tulachermet	Tul'skaya Oblast', North Caucasus	NA
Zinc:			
Zn content of copper-zinc ore	Bashkir copper-zinc complex	Sibai, southern Urals	5,000
Do.	Buribai copper-zinc mining complex	Buribai, southern Urals	1,500
Do.	Gai copper-zinc mining and beneficiation complex	Gai, southern Urals	25,000
Do.	Kirovgrad copper enterprise	Kirovgrad, Central Urals	1,200
Do.	Sredneuralsk copper complex	Revda, Central Urals	5,000
Do.	Uchali copper-zinc mining and beneficiation complex	Uchalinskiy Rayon, southern Urals	90,000
Metal	Chelyabinsk electrolytic zinc plant	Chelyabinskaya Oblast'	200,000
Do.	Elektrozink plant [Ural Mining and Metallurgical Co. (UMMC)]	Vladikavkaz, North Caucasus	90,000
Do.	Uralektromed plant [Ural Mining and Metallurgical Co. (UMMC)]	Verkhnyaya Pyshma	17,000
Zirconium:			
Baddeleyite concentrate	Kovdor iron ore mining and beneficiation complex	Kola Peninsula	3,500
Metal	Chepetsky metallurgical plant (TVEL Corp.)	Glazov, Udmurtiya Republic	NA

^cEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

¹Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

²Capacity estimates are totals for all enterprises that produce that commodity.

³Merged with Uralkali in February 2011.

⁴Not in operation as of 2013.