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MANGANESE AND NONFERROUS METAL RESERVES IN SOVIET ASIA

Manganese

Soviet Asia is poor in manganese ore. While Ukrainian manganese deposits amount to 522 million tons (in Nikopol') and those in Chiatura, Georgian SSR, to 175 million tons, the Urals, Siberia, and Central Asia have very few manganese-ore deposits.

In the Urals, deposits of low-grade manganese ore totaling 14 million tons are known. Kazakhstan has the richest deposits, totaling 37 million tons. The manganese ore mined in this region during World War II was able to compensate for the loss of the Nikopol' manganese mines occupied by the Germans. Manganese-ore deposits in Siberia so far have been discovered totaling only about 6 million tons.

In 1937, the Urals, Kazakhstan, Bashkiria, and East Siberia (Krasnoyarsk) supplied 144,700 tons, or 7 percent, of the total Soviet manganese-ore output. The current manganese-ore output of the Urals and the remaining eastern regions of the USSR probably amounts to not more than 10 percent of the entire Soviet manganese-ore production.

Copper

In 1938, about 95 percent of Soviet copper was found in Asia, especially in Kazakhstan, Uzbekistan, Armenia, and the Urals. According to recent geological investigations, the largest copper-ore deposits are in Kalmakyr, near Almalyk, Uzbek SSR, and near Dzhezkazgan and Kourrad, Kazakh SSR. The largest Soviet copper smelter is in Almalyk; its present capacity is estimated at 250,000 tons (130,000 tons in 1940). Next in importance is the copper smelter at Karsakpay (Dzhezkazgan Combine), with a capacity of 200,000 tons, and the Balkhash copper combine near Kourrad, with a capacity of 100,000 tons.

The largest copper smelter in the Urals is in Pyshma, Sverdlovsk Oblast, with a yearly capacity of 100,000 tons; then follow the smelters at Blyava (Orsk-Khalilovo) with 50,000 tons, Revida, and Krasnoural'sk with 40,000 tons each, Kirovgrad with 38,500 tons, and Karabash with 25,000 tons per year.

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West Siberia has only the Irtysh Copper-Smelting Plant in Glubokoye, East Kazakhstan, with a capacity of 20,000 tons, while Armenia has modern smelting plants in Alaverdi, Zangezur, and Yerevan with considerable capacities.

In 1940, the USSR had a copper output of 166,200 tons and occupied the sixth place among all other countries. The 1942 plan provided for a copper output of 221,500 tons. It has probably increased since then. It is entirely possible that further copper deposits are being found in eastern regions, so that the Soviet Union will be able to export copper in the future.

Zinc

The main zinc deposits are also found in eastern regions. The largest deposits are in East Kazakhstan, in the Leninogorsk (formerly called Ridder) area, and are estimated at 2.4 million tons (35.2 percent of Soviet zinc reserves). Other zinc deposits are in Salair, Kirovgrad, and Degtyarka, with one million tons each, so that the Urals have about 15.5 percent of the total zinc reserves. The Novosibirsk area has about 1.7 percent of the zinc deposits. Recently, the deposits at Aktyuz and Baurdu (Chu Valley), in Kirgizia, as well as Almalyk and Leninabad, in Tadzhikistan, have gained in importance; however, their reserves are not definitely known. In East Siberia and the Far East, the zinc reserves are estimated at 2 million tons, of which 500,000 tons are in Tetyukhe, 330,000 tons in Nerchinskii Zavod, and 95,000 tons in Gazimurskiy Zavod. As far as we know, the production capacity of zinc smelters in 1938 amounted to 50,000 tons in Leninogorsk, 20,000 tons in Chelyabinsk, and 18,600 tons in Kemerovo-Belovo (Kuznetsk Basin); these capacities have been increased since then.

For many years, the Soviet zinc industry was handicapped by the absence of smelting installations in the main zinc-mining areas. This situation has changed since construction of the zinc plants at Leninogorsk and Ust'-Kamenogorsk. In 1938, the Soviet zinc output was 84,600 tons, i.e., eight times more than the 1913 figure of 10,600 tons. Zinc production has undoubtedly increased in recent years, so as to eliminate the necessity of zinc imports from foreign countries.

Tin

Tin is now as ever a critical material, despite Soviet endeavors to find adequate tin deposits. The largest tin deposits of the Soviet Union (37.2 percent) were discovered in 1939 in Yakutia, in the area of Ege-Khaya (Verkhoyansk Mountains, near the source of the Dulgalakh River); a tin combine has been built in this location. According to investigations made in 1939, other tin deposits existed in the areas of Khapcheranga, Chita, and the Onon River. Since 1935, 90 percent of Soviet tin was obtained from Khapcheranga. Other deposits have been found near the port of Tetyukhe on the Sea of Japan (14.7 percent); along the upper course of the Irtysh River in the Kalba-Narymskiy mountain areas, where a tin-smelting plant has been put into operation in Kalbolovo; and recently in the Turkestan mountains, east of Tashkent, as well as in Aktyuz, Kirgizia, where mining operations have begun. Through considerable efforts of the Soviet armaments industry, tin production between 1932 and 1938 was raised from 4,000 tons to 13,000 tons. Even in 1946, the Soviet Union was forced to import up to 5,000 tons of Belgian tin annually.

Lead

With lead reserves of approximately 5 million tons, the USSR is among the leading lead-producing countries. The most important deposits are in South Kazakhstan, in the Achisay area of the Karatau Mountains. The lead reserves in Achisay and Tekeli (South Kazakhstan), Kizyl and Leninogorsk (Altay), and

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Belousovo-Berezovo, west of the Kuznetsk Basin, are estimated at 4.5 million tons (80 percent of Soviet lead reserves). The remaining lead reserves are near Chita and Tetyukhe with 400,000 tons, and the Kirgiz deposits of Karamazar, Aktyuz, Buurdu, and Talass. The largest Soviet lead smelter is in Chikment, Uzbekistan. In the mid-1930's its annual capacity already reached 60,000 tons (49 percent of the total USSR output). The Leninogorsk smelter has a capacity of 31,000 tons and the Ust'-Kamenogorsk plant is believed to have a similar capacity (25 percent of the total capacity of the Soviet Union); these are followed by the lead smelter at Sadon (Caucasus), which has 13.7 percent of the total capacity of the Soviet Union, and the smelter at Tetyukhe, with 12.5 percent of the total Soviet capacity. For many years, Soviet lead production was below the plan (only 55,100 tons in 1937 instead of 115,000 tons); however, production increased to 69,000 tons in 1938 and has grown considerably since then, as nothing has been known in recent years regarding Soviet lead imports.

Nickel

The USSR has made great efforts to increase the production of nickel. Since 1937, large new deposits have been discovered on the Kola Peninsula and the northern part of the Karelo-Finnish SSR, as well as in the Urals and northern Siberia. The new deposits are beginning to be developed. The largest deposits are in the Noril'sk region, near the mouth of the Yenisey River, which region is connected by railroad with the Arctic port of Dudinka. According to estimates of Soviet geologists, these deposits have placed the Soviet Union in the second place among countries of the world. In the Urals, the largest deposits are found near Orsk-Khalilovo (300,000 tons), Aktyubinsk (43,500 tons), and Ufaley (24,000 tons). The nickel combine in Noril'sk, as well as that in Orsk, are believed to have a capacity of 10,000 tons each, Rzhnev and Ufaley have a capacity of 3,500 tons each, and no data are available on the Chkalov plant. In 1937, Soviet nickel production amounted to 2,500 tons and covered only 20 percent of Soviet requirements; by 1940, the output had risen to 9,500 tons and was supposed to reach 28,000 tons at the end of the Third Five-Year Plan. At present, it is estimated that the seven Soviet nickel plants in operation produce at least 41,500 tons, which would make imports from other countries unnecessary. New deposits have recently been found in the Chu Valley, in Kirgizia, north of Lake Issyk-Kul; however, no further data are known to date.

Chromium

The most important chromium deposits are in the Urals, in the region of Krasnoufimsk, Gologorsk, and Orsk-Khalilovo. Reserves are estimated at 14 million tons and should be sufficient to meet Soviet requirements for the next 30 years.

Tungsten

Because of the great importance of tungsten for steel refining, especially in the armaments industry, the Soviet Union has made considerable efforts to become independent of foreign countries. However, as in the case of tin, this has not yet been possible. The most important tungsten deposits of the Soviet Union are near Dzhiba, Buryat-Mongol ASSR. Reserves in this location amount to about 37 percent of the total Soviet reserves, whereas the regions of Bukuka and Belukha, Chita Oblast, supply about 20.5 percent of the total. In 1936, the Transbaykal area supplied 60 percent of all tungsten ore, but only 50 percent in 1939, since, in the meantime, new deposits had been mined in the Urals, the Altay, Central Asia, and especially in the North Caucasus.

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Aluminum

There is still a shortage of aluminum in the Soviet armament industry and machine-building industry, even though large new bauxite deposits have been discovered and the newly built aluminum plants have been almost able to meet Soviet requirements. The largest deposits, i.e., about 90 percent of total reserves, are in the Urals near Krasnaya Shapochka (Sverdlovsk Oblast) and are estimated at 9 million tons. Other important deposits are near Sokolovskoye (2.6 million tons), in Bashkiria (1.5 million tons), and Oka-Aymak, Buryat-Mongol ASSR. Between 1933 and 1937, the aluminum output of the USSR increased from 4,400 tons to 45,000 tons. In 1940, the output was 54,900 tons, and it was supposed to reach 200,000 tons according to the plan for 1942. Bauxite mining increased from 50,600 tons in 1933, to 250,000 tons in 1937, and to 560,000 tons in 1938. Since then, it has been further increased and the current Soviet aluminum production should amount to approximately 250,000 tons. The most important plants in the eastern USSR are in Kamensk-Ural'skiy and in Kemerovo, each with a capacity of 100,000 tons, and Cherekhovo, Irkutsk Oblast, with 250,000 tons. Conditions in the Irkutsk industrial region favor a further development of the aluminum industry, especially after the construction of the large hydroelectric power station on the Angara River has been completed.

Mercury and Rare Metals

During the recent years, mining of mercury has greatly increased, as this metal also is of great importance to the armaments industry. The largest Soviet mercury deposits are in Khaydarken and Kadamzhay, Kirgiz SSR, where reserves are estimated at 100,000 tons. Further deposits have been found in the Altay region and in the Oyrot Autonomous Oblast. The USSR is not dependent on imports of mercury from other countries.

On the other hand, molybdenum is still a critical material. It is obtained, together with other nonferrous metals, from the copper mines of Kounrad (Kazakhstan) and Dzhide, Khatoma, Ul'mata [possibly Umal'ta] and Davenda (Transbaykal).

Vanadium, which is obtained in the regions of Molotov and Orsk in the Urals, as well as in Central Asia, is not sufficient to meet the requirements of the armaments industry.

The supply of cobalt is apparently sufficient to meet the growing demands of the Soviet aviation industry. Cobalt ore is obtained from nickel deposits in the Urals and Kazakhstan.

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