

History of bauxite exploration in Hungary till 1945.

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The bauxite exploration beginning in 1920 in present Hungary was preceded by some bauxite exploration in the Bihar-mountains (Transsylvania) which was begun by GY. SZÁDECZKY-KARDOSS, K. PAPP, P. ROZLOZSNIK and B. MIKÓ in 1903. Bauxite mining began in the area in 1915, by the Jad-valley Aluminium Company.

The Hungarian bauxite exploration can be divided into three periods with respect to its size and results.

The first period: 1920—1925.

During this period bauxite was discovered at several places, and exploration rights were secured by mining claims (leases) as e.g. at Halimba, Halimba—Malomárok, Gánt, Isztimér, Bakonyszentlászló Eplény, Nagynémetegyháza. The prospectors (J. BALÁS, I. VELTY, A. A. GYÖRGY) recognize in the outcrops the bauxite by utilizing the results of some basic geological mapping, such as the work of H. TAEGER. Prospecting is very unsystematic and involves only deposits recognizable on the surface. In the environment of Gánt the Aluminium Ore Mines and Industry Company, founded in 1917 and becoming an affiliate of the Bauxit Trust A.G. in 1923, is striving to secure exclusive prospecting and mining rights for the area. The same is done by the Tapolca Mining Company in the area of Halimba, initiated by A. GYÖRGY. At this time Gánt and Halimba were the most prominent occurrences, having estimated reserves of some 30 million tons (K. TELEGDI-ROTH), and 130 million tons (A. GYÖRGY), respectively. Later estimation for Halimba was proved as being too high. J. BALÁS estimated country-wide reserves as being some 2.5 thousand million tons, but this estimation was declared by K. TELEGDI-ROTH as unfounded.

E. VADÁSZ, geologist, J. BALÁS, mining engineer and I. JAKOBI, metallurgical engineer suggested as first the starting of big scale mining and processing of bauxite in Hungary to exploit the deposits, thought to be significant even as compared to world reserves. All of them accentuated the importance of further exploration, with special respect to very varying quality, influencing industrial processing decisively.

The second period: 1926—1935.

The Aluminium Ore Company having secured all claims to bauxite at Gánt began the detailed surveying of reserves and mining was started in 1926. The success of bauxite exploration and production at Gánt gave an impetus to fur-

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ther exploration. Work was continued at Halimba—Szóc, in the Northern—Bakony-mountains (Fenyőfő, Dudar), in the Pilis-mountain, and at Nagyné-metegyháza—Óbarok. The new prospecting disclosed bauxite at Alsópere, Nyírád, and in 1930 at Nagyharsány.

K. TELEGDI-ROTH, E. VADÁSZ and T. KORMOS played an outstanding role in bauxite prospecting.

Bauxite production at Gánt reached 20% of world production in 1927—29. Following, production decreased and surpassed again the previous level only after the big world-economic crisis.

The third period: 1936—1945.

The laggish development following the economic depression began to accelerate from 1936 on also in the bauxite production motivated mainly by military upswing. The known deposits were reviewed and detailed exploration, applying exploratory drilling, was continued, followed by a steep increase of production. With the opening of an open cast mine at Bagolyhegy, production at Gánt reached 500 thousand tons per year.

In the vicinity of Iszkaszentgyörgy bauxite was found by M. POVOLNIK and, following, the area was quickly developed by the Aluminium Ore Company, advised by T. KORMOS. The Aluminium Ore Co. started intensive exploration in 1943 also in the previously already known Halimba-basin.

The formation of the Hungarian Bauxite Mines Co. was followed by a very intensive exploration activity. The detailed prospecting of the bauxite deposits at Alsópere began, and at Nyírád the area, relinquished by the Aluminium Ore Co., was reambulated disclosing some 22—25 million tons reserves, as estimated. Production was started at Nyírád and Nagyharsány in 1938, and at Alsópere in 1940. The contribution of K. TELEGDI-ROTH, E. VADÁSZ, E. AJTAI and Z. SCHRÉTER to the above exploration was especially valuable.

The Aluminium Industrie A.G. also appeared again on the scenery conducting exploration at Szóc, headed by DE WEISSE.

The Hungarian National Coal Mines Co. (MÁK) drilled several exploration wells for coal in the area of Nagyegeyháza discovering a big amount of sideritic bauxite beneath the coal seams and partly below fractured dolomite debris. These reserves were most recently developed.

Summarizing the characteristics and results of bauxite exploration between 1920 to 1945 the followings can be stated:

- Till the end of World War II. all bauxite outcrops in the country were discovered and the exploration, continued from the outcrops downwards into the depth, was also at many places successful, as e.g. at Szóc, Halimba, Alsópere, Eplény, Vázsonypuszta, Óbarok, Nagyharsány. In consequence all bauxite areas could be delineated already at that time forming the backbone of actual bauxite mining: Nyírád, Halimba—Szóc, Kincsesbánya, Gánt.
- Exploration was based partly on previously concluded, excellent geological field surveying, partly on the work of a leading team of specialist, though small in number, yet well versed in general geology and able to recognize immediately the importance of bauxite.
- The throughout investigation of the bauxite deposits, the detailed laboratory examinations of thousands of samples yielded excellent scientific

- results, which were published only after 1945, giving an outstanding interpretation of the results obtained, and giving decisive incentives to still more intensive bauxite exploration started in the fifties. The two most important publications were compiled by E. VADÁSZ: „Geological conditions of Hungarian bauxite occurrences”, and „Bauxite-Geology”.
- Geological surveying was determined by the fast growing mining requirements, and by the position of bauxite deposits, making the surveying more effective, yet causing at the same time some less systematic work. The extension of bauxite deposits, suitable for open pit mining, were explored by small shafts, hand made borings, in some cases by small scale mining methods, to satisfy immediate requirements. Exploration by deeper drillings over covered areas began only during the war to satisfy quickly the several times multiplied demands.
 - Continuously increasing knowledge about bauxite-stratigraphy contributed to a great extent to the examination of bauxite genesis, to develop and prove some related theories. An other approach of the problem, based on profound material examination, began already in the thirties, but a big scale investigation, applying the most modern methods and involving a mass of samples, started only in the sixties rendering more promising data to the successful solution of bauxite genesis.