Citation:

A. Wichmann, On ore veins in the province of Limburg, in:
KNAW, Proceedings, 10 I, 1907, Amsterdam, 1907, pp. 76-77

Geology. — "*On ore veins in the province of Limburg*". By Prof. A. WICHMANN.

(Communicated in the meeting of March 30, 1907.)

In the spring of 1856 the ex-colonel of the Dutch East-Indian Army P. VAN SWIETEN, at the Hague, founded a "Mining Society for the Netherlands" [1]), which obtained the concession for the mining field "Marie" in the southernmost part of the province of Limburg [2]), in order to search for coal. After the first borings at Epen and Simpelveld had remained unsuccessful, the hamlet of Bommerig [3]), community of Wittem, was taken, where on Oct. 11, 1856, a lode of ore was discovered of 0,80 meter thickness, at a depth of 56,20 M. and consisting chiefly of quartz and galena. Although it was suspected at once that this lode communicated with the one worked at Bleiberg in Belgium, situated to the SSE., yet the working of this lode was not taken in hand because of the great expense, involved in sinking a shaft. After this the Society continued its investigations in other parts of the mining field with insufficient results until it was dissolved after the available funds had been exhausted.

It has been known for a long time that the devonian and carboniferous strata in the environs of Aachen (Aix-la-Chapelle), extending mainly from the North-east to the South-west, are cleaved by faults directed almost perpendicularly to them and which appeared to be of great importance for the formation of ores [4]). These masses of ores were found sparingly in the devonian system, mostly in those, belonging to the carboniferous limestone and only once — it was thought — in those of the coal-measures, namely at Bleiberg.

[1]) Nieuwe Rotterdamsche Courant, Thursday, May 22, 1856, N°. 140. The foundation act dates from June 11, 1856 (Dutch State Gazette, Thursday, July 10, 1856 N°. 162).

[2]) Situated a little over a kilometer to the North-east of Epen and 2 kilometers south of Mechelen.

[3]) Nieuwe Rotterdamsche Courant, Thursday, October 16, 1856; N°. 286. P. VAN SWIETEN. Rapport sur les opérations de la Société de l'union minérale pour la Néerlande de 1856 à 1857. Annales des Travaux publ. de Belgique XVI. Bruxelles 1857—58 p. 266—267 Pl. V.

[4]) C. DANTZ. Der Kohlenkalk in der Umgebung von Aachen. Zeitschr. d. D. geolog. Gesellsch. XLV. 1893 p. 599—683, Taf. 26. W. SCHULZ. Führer des Berg- und Hütten-Ingenieurs durch die Umgegend von Aachen. Aachen 1886, p. 37—41 m. Karte. G. D. UYLENBROCK. Le sud-est du Limbourg néerlandais. Annales de la Soc. géolog. de Belgique XXXII. Liége 1904—05. M. pag. 151—104., Pl. V.
G. DEWALQUE. Essai de carte tectonique l. c. Pl. IV.

On the most important fault — called by UIJLENBROEK the "Geul Valley fault" — lie the mines Fossey, near Hergenraed (Rhenish Prussia), Moresnet (neutral territory) and Bleiberg (Belgium). Excepting the contact seams, containing calamine, the ores are galena, being the oldest formation as usual, zinc-blende and pyrites. The vein, found at Bommerig more than 50 years ago in the lowest stratum of the productive carbon, shows that from the south-east to the north-west the ores seek more and more the younger strata [1]) and that the direction of the Geul valley fault begins to deviate more towards the north-north-west after Bleiberg.

For years numerous borings were made in a more northern part of Limburg, which led to the sinking and working of some coal-pits. In December 1905 Mr. L. RUTTEN at Utrecht found on the dump of the mine "Carl" [2]) some pieces of ore which he presented to the Mineralogical-Geological Institute at Utrecht. Further investigations, undertaken by him, showed that these ores originated from a vein, met when sinking the shaft, at a depth of 278 metres, but of which the dip and direction had not been determined. He succeeded in securing a number of pieces, belonging to private people. The vein has only a thickness of 0.20 M. On the clay-containing salband pyrites has deposited, while the vein mass proper consists of calcite, developed in the cavities in the form of crystals, on which sometimes also crystals of pyrites are found. Beside this vein ores were also found, likewise on joints of the sandstone of the mine "Carl", namely pyrites, but also zinc-blende, copper, pyrites, and galena. Moreover crystals of calcite are always found and generally dolomite.

In the mine Oranje-Nassau, near Heerlen, similar formations seem to occur, at any rate crystals of calcite, covered with pyrites, are found here on joints. Peculiar is here the regular coalescence, caused by the small cubes of pyrites accumulating at the poles, then continuing themselves on the obtuse edges of the scalenohedra and here gradually disappearing.

We finally point out that while in the Stolberg district the veins of galena, pyrites, zinc-blende, and calcite are still mostly bound to the carboniferous limestone these minerals occur in the more western Worm district on joints of the carboniferous sandstone, which is a more recent horizon, a phenomenon which repeats itself at Heerlen.

[1]) At Eupen they still occur in the devonian system.

[2]) Situated at $1^1/_2$ kilometers east of Heerlen.