

PALINSPASTIC MAP AT 1:1,000,000 SCALE OF LATE VARIS-CAN GOLD MINERALISATION IN FRANCE AROUND 300 MA.

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Analysis of the vast amount of exploration and research data acquired on gold-bearing deposits since the revival of gold exploration in France in the 1980's has revealed a major crustal-scale gold event in the Variscan basement that took place over a short period of less than 10 Ma at the end of the Variscan orogeny. This discovery led to the compilation of a map of French gold mineralization within its geological setting around 300 Ma. More than 500 primary-gold occurrences, including 20 deposits (210 t Au), are plotted on the map along with their morphology and economic size, and represent gold concentrations emplaced in the crust at depths between 1 and 15 km. These localized gold concentrations lie within hydrothermal palaeofields of regional extent (some hundred km²), as demonstrated for the first time by mapping the distribution of geochemical arsenic anomalies in stream sediments of France's Variscan basement. This arsenic signature result from the systematic presence of arsenopyrite in the gold mineralization and regional hydrothermal halos. The different markers of this Au-As hydrothermal event were recorded on a thematic lithostructural layer so as to highlight the Late Carboniferous geological features that may have controlled or influenced gold concentration in the crust, such as granitic intrusions, deep anatectic domes or regional faults. To conclude, this map is intended as a geoscientific aid for economic geologists in their search for new gold-bearing targets. References: Bouchot V. et al. (1997). Chron. Rech. min., vol. n°528, pp.13-62.