

The Collapse of Compagnie des Salins SG4 and SG5 Drillings

by

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I - GEOLOGICAL CONTEXT

- In order to supply brine for the Varangéville refinery, which has a production capacity of 625 000 tons per year, the Salins du Midi Company exploits the eastern edge of the Keuper de Lorraine-Champagne salt deposit along with two other companies (Solvay and Novacarb) installed in the Meurthe valley.
- Indeed, in the north-eastern Paris Basin, a large salt deposit was formed at the end of the Triassic period. The precise study of thirty types of pollen contained in the salt has made it possible to date it from the Karnian era which is a substage of the Keuper.
- This deposit extends for more than 200 km from east to west and 100 km from north to south, and progressively sinks towards the Paris basin to a depth of more than 2000 meters (figure 1).
- In Lorraine, there is a maximal total thickness of 150 meters. In this region, it is constituted of a superposition of five pencils or units. One of them, the fourth (unit M), does not contain salt. The other four have salt veins separated from each other by clay interlayers. The thickness of these various successive layers is variable. The first and the third pencils (units N and P) are the richest in salt (figure 2).
- The Salins du Midi Company exploits by mining the base of the third pencil (unit N) and by solution mining the first three pencils surmounting the fourth (unit M) which is sterile. In the exploitation zone, all this is located at a depth included between 215-220 and 280-290 meters. The land above is basically made of argillite, dolomite, sandstone and limestone (figure 3).

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