

Zeitschrift: Bulletin für angewandte Geologie
Herausgeber: Schweizerische Vereinigung der Petroleum-Geologen und –Ingenieure;
Schweizerische Fachgruppe für Ingenieur-Geologie
Band: 4 (1999)
Heft: [1]: Geological results of a hydrocarbon exploration campaign in the
southern Upper Rhine Graben

Artikel: Geological results of a hydrocarbon exploration campaign in the
southern Upper Rhine Graben (Alsace Centrale, France)
Autor: Lutz, Manfred / Cleintuar, Max
Kapitel: Acknowledgements
Autor: [s.n.]
DOI: <https://doi.org/10.5169/seals-221515>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 01.05.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

accidentally. Similarly, hydrocarbon generation during the maximum burial in latest Paleogene-Early Neogene time and migration in a structural setting different of that of today, may have caused the wide, but haphazard distribution of hydrocarbon shows in places which have no easy access to present-day kitchens: asphalt or heavy oil in Mesozoic limestones in the Vosges and Schwarzwald foothills, the heavy oil accumulation in basal Eocene limestones of the Allschwil-1 well W of Basel; and, most relevant, the find of an oil-impregnated fragment of Liassic in a probably Middle Miocene tuff breccia by Sauer et al. (1955: 365) in the foothills of the southern Black Forest:

They describe a tuff breccia filling a volcanic pipe, from a well drilled near Müllheim, in which they found a fragment of Liassic rock which showed, when smashed, droplets of oil. On circumstantial evidence, the volcanic explosion was dated as younger than the regional uplift and erosion of the Paleogene discussed above, and older than latest Miocene, viz. as probably Middle Miocene. Other fragments indicate that the pipe pierced a sequence reaching from the Paleozoic to the basal Tertiary. We regard the presence of live oil in that fragment as a strong indication for oil generation before the Neogene inversion viz. during the max. burial in the (?) Aquitanian.

Summarizing we see that in the Upper Rhine graben between Strasbourg and Mulhouse

- no Late Paleozoic source rocks are present;
- migration paths from the Toarcian source rock into Buntsandstein reservoirs, the original main target, are complex, so that it is difficult to predict whether and eventually where it could materialize;
- most of the strata overlying the Buntsandstein are permeable, a reliable seal only occurring c. 100 m above the top of the Middle Buntsandstein reservoirs;
- the reservoir quality of the Grande Oolithe, our main target in the later phase of the venture, is highly variable; porosities range from porous (Meistratzheim-1) to tight (Artzenheim-1);
- hydrocarbon generation most probably occurred before final structuration; during and after the Neogene uplift, early accumulations may have escaped to the surface or remigrated to new traps along paths which hardly can be predicted.

Adding up these negative elements for the Mesozoic play in the southern Rhine Graben, it becomes now clear, that exploration for hydrocarbons in the Mesozoic of the southern Graben was fraught with a very high risk. The fact that hydrocarbon generation apparently preceded the final structuration, makes a systematic search for, and the prediction of, hydrocarbon-filled traps difficult, in particular as the depositional record of the structural development is partially removed by erosion and, in a large part of the area discussed, is blurred by halokinesis.

Acknowledgements

The authors thank Shell Française S.A., Paris, and Shell International Exploration and Production B.V., The Hague, as well as Société Nationale Elf Aquitaine (P), Paris, the partners in the exploration venture discussed, for their permission to use the data which became available through their joint activities, and to publish the present article. Peter Lehner, Peter Heizmann and Roland Wyss reviewed various versions of the manuscript; their critical comments and suggestions improved the final paper. The efforts of Harry Doust to improve our English are gratefully acknowledged. All interpretations, however, are the sole responsibility of the authors.