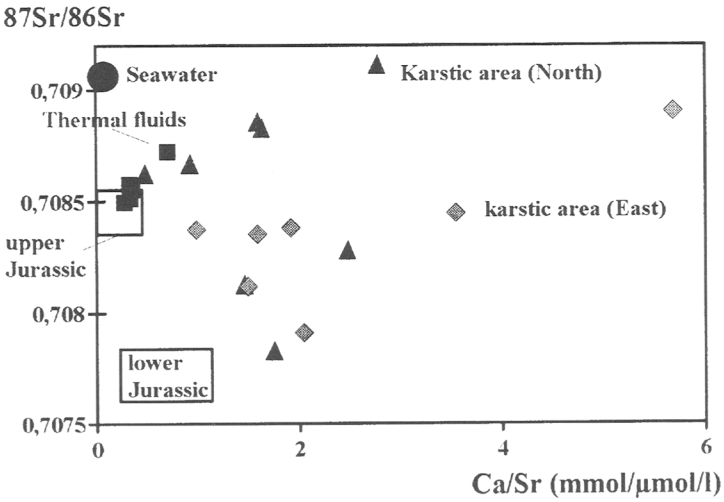

FIG. 1. Isotopic ratio *vs* Ca/Sr ratio. Dissolution of carbonates leads to two distinct domains depending on the origin of the fluids. The thermal fluids are close to the upper Jurassic domain.

from the points of the karstic areas, a minimum depth of 2–2.5 km can be computed.

Conclusion

Chemical and isotopic investigation of thermal fluids around the eastern part of the Thau lagoon, indicates that the thermal fluids are composed of a mixing between seawater and palaeometeoric waters, which originate from a reservoir deeper than 2–2.5 km. These fluids flow towards the surface where they mix with present meteoric waters flowing through karstic aquifers. ^{36}Cl isotopic measurements are interpreted as the result of long-term residence time which allowed decrease of the atmospheric imprint. From Ca and Sr concentrations, and Sr isotopic ratios, the fluids are assumed to have had a long-term interaction with upper Jurassic limestones.

Geological investigations indicate that the upper-Jurassic limestone reservoir lies at great depth to the South of the thau lagoon, below the Mediterranean sea. It also indicates that the thermal fluid may flow along a deep fault related to the 'Nimes Fault'.

References

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Correction of interferences caused by oxide and hydroxide analyte species in ICP-MS: development and limits of a new method applied to transition metals

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