

ACTAS DE RESUMENES DEL E-ICES 15



DECIMOQUINTO ENCUENTRO DEL
CENTRO INTERNACIONAL DE
CIENCIAS DE LA TIERRA

23 al 25 de noviembre de 2020



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CENTRO INTERNACIONAL PARA ESTUDIOS DE LA TIERRA



Comisión Nacional
de Energía Atómica

MODERN MICROBIALITES FROM THE HIGH-ALTITUDE ANDEAN TURQUESA LAKE (CATAMARCA, NORTHWESTERN ARGENTINA): LINKING MICROSTRUCTURE AND ENVIRONMENTAL CONDITIONS

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RESUMEN

Microbialites microstructures are the result of the dynamic interaction between physical, chemical and biological factors during their development. Thus, the understanding of microstructures represents a key approach in order to assess these relationships in space and time. The high-altitude Andean Turquesa lake is located at the northeast of the "El Peinado" volcano, and to the south of the Antofalla salt flat (26°39'14" S and 68°10'42" W). Three different microbialite levels (I, II and III) were identified on the coast and paleocoasts of the lake. Levels I and II are located on paleo shorelines and level III is currently underwater. Beyond the overall shape and macro-morphology similarities, levels I and II display a quite similar internal structure (oncoid type), with a microstructure characterized by interlamination of dense and dark micritic, and light micritic to microsparitic laminae. This suggests that despite the loss of depth, the environmental and biological parameters probably remained stable during the development of these two levels. In contrast, level III exhibits a parallel continuous and slightly sinuous lamination, characterized by the alternation of micrite and sparite. A variation in the environmental conditions is suggested by the differences in the microstructure at level III that differ from levels I and II, which is probably related with a syndimentary increase in pore space. Results are suggestive since far from a crisis paradigm, in which extreme environments are hard for microbial colonisation after abrupt changes in environmental conditions (e.g. desiccation), the microbialites development is allowed once the main parameters are stabilized.

Palabras clave: Microbialites, Microstructure, Andean lake.