

## **DEVELOPMENT OF THE HANAUPAH-FAN SHORELINE DEPOSIT OF LATE PLEISTOCENE LAKE MANLY (DEATH VALLEY, CALIFORNIA)**

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Development of the Hanaupah-Fan Shoreline Deposit of Late Pleistocene Lake Manly (Death Valley, California)- Based on GPR Profiles and Sedimentologic DataWARNKE, D.A., LEE, C.F., California State University, Hayward, CA 94542, U.S.A. and IBBEKEN, H., F. U. Berlin, D-12249 Berlin, Germany.

The Hanaupah-Fan Shoreline Deposit (HSD) is in the central part of Death Valley, California, at the northeastern periphery of Hanaupah Fan, near the locality Tule Spring (so indicated on topographic maps). The deposit is a gently sloping, WSW - ENE elongated ridge, about 600 m long. Its surface extends from +28 to -12 m in elevation. This deposit is the result of shoreline processes (of Late Pleistocene Lake Manly) that reworked fan materials and produced a complex sedimentary body that extended east into the paleolake. The ground-penetrating radar (GPR) lines show a strong reflector, about 10 m below the surface of the deposit, which we interpret as an older fan surface on which the HSD sits. The western, higher part of the HSD is complex, but shows several sub-horizontal reflectors which we interpret as beachface deposits, produced by waves from both N and S. The eastern, lower part shows irregular reflectors above the basal reflector, representing, in part, a debris-flow deposit. Eastward-dipping, offlapping reflectors above the debris flow are interpreted as gravel beds produced by longshore drift. The HSD was produced during rising lake level, but interrupted by significant stillstands or regressions. A surface layer of gravel was produced during a final regression, and shows up well on the profiles.