



Basalt formations of the Skalamaelifell excursion, Reykjanes Peninsula, SW-Iceland, and their relevance to the Weichselian glaciation of the peninsula

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Transitional remanence directions, noted by A.G. in lava outcrops in three locations on the Reykjanes Peninsula in the mid-1970s, were described by us in a 1980 paper. Several other such locations were found later, within an area of approx. 6 by 8 km. The transitional directions occur in small tuya-type hills and ridges, composed largely of hyaloclastite but capped by olivine-tholeiite lava flows erupted subaerially. They may all lie on a couple of NE-trending fissure swarms. The overall average direction in 146 stable samples (97 from a study by S. Levi et al., 1990 and 49 from work published by L.K. in 2003) has $D = 261$, $I = -16$, a.s.d. = 14 deg. The corresponding V.G.P. is at 11S, 252E. Nineteen K-Ar determinations on material from five hills gave a mean age of 43 ka, s.d. 4 ka. Two paleointensity studies showed that the field strength was only around one-twelfth of the present one. No outcrops with mid- or high-latitude reverse poles have been found in the peninsula. In 2008 we began sampling ten selected transitional lava units in the above area for detailed remanence direction measurements. In results obtained so far from six of these, the between-site variation is greater in the inclinations of the site-mean directions than in their declinations; it could be due to local pre-existing anomalies rather than to significant differences in ages. The most elevated occurrences of the lava flows may indicate the top of a glacier cap at the time of eruption; this would constitute a valuable point in considerations on the height and extent of Weichselian glaciers in Southwest Iceland.