

Paleomagnetic observations at three locations in the Pleistocene lava sequences of southwest and south Iceland

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Abstract — *Magnetic polarity measurements on lava samples were introduced in the 1950s as an aid in stratigraphic research in Iceland, and applied by T. Einarsson especially on Pleistocene sequences in southwest and south Iceland. However, the stratigraphy of these sequences is often complex, and Einarsson's mapping has only been followed up to a limited extent. The present detailed laboratory study on magnetic remanence directions in lava flows is focused on three locations within the above region. In two of these locations (in southwest Iceland), profiles spanning the boundary between the polarity zones named R2 and N2 by Einarsson were sampled. The potential of using this boundary for correlation over short distances was confirmed. In a third location (in south Iceland), three normal-polarity zones are present in a 500 m thick lava and sediment sequence of dominantly reverse polarity. The stability and within-lava agreement of primary remanence vectors is generally excellent. Remanence directions in successive lava units are in many cases very similar, indicating that the volcanism was episodic. In comparison to geomagnetic poles obtained in previous paleomagnetic collections of older lava series in Iceland, the poles derived from these and other Pleistocene lavas are rarely situated in low latitudes.*