

**CLAY LINER INCLUDING CLAY-POROUS INNER SHEET
MATERIAL FOR CLAY EXTRUSION THERE THROUGH
UPON CLAY HYDRATION AND SWELLING**

ABSTRACT

A geosynthetic clay liner (GCL) is provided that includes a layer of water-swellable smectite clay, e.g., sodium montmorillonite disposed between a carrier sheet and a cover sheet. An inner sheet, disposed against the surface to be protected against water penetration - either the carrier sheet or the cover sheet - is made of material having a more open structure that allows hydrated bentonite to migrate through it. The other, e.g., outer sheet, includes a more closed structure and, therefore, precludes substantial bentonite migration through it. The GCL can be held together in any manner known, e.g., by adhesively affixing the clay to the sheet material layers, or by needle-punching or stitching the sheet materials together surrounding the intermediate clay layer.

Fig. 2



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