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Coplen, II

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(54) **SEQUENTIAL, TIME-INTEGRATED COLLECTOR OF PRECIPITATION, GROUND WATER, AND SURFACE WATER FOR ANALYSIS OF ISOTOPES**

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See application file for complete search history.

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(57) **ABSTRACT**

A sequential, time-integrated collector having an electronic controller that actuates either of two electrically-actuated valves, each connected to a water reservoir. At a preset time interval (e.g., every 30 minutes), time-integrated water samples are transferred into sample vials in a multi-sample carousel. Evaporation that could change the isotopic composition of a precipitation sample is minimized by sealing the opening of each sample vial by pressing each vial against a flat, low-friction surface, such as a Teflon® sheet, from the time each sample vial is filled until it is removed from the collector.

13 Claims, 6 Drawing Sheets

